International Meetings and Journals Research Association

ISSN-p: 2790-0169 /-e: 2790-0177
Established: 2018

# Science, Education and Innovations

## in the Context of Modern Problems

Editor-in-Chief & Chair of the Editorial Board -
Dr. Rahil Najafov

**Monthly | Regular | Open Access**

October, 2025-Issue 10, Vol. 8

imcra-az.org

SEI JOURNAL
SCIENCE, EDUCATION AND INNOVATIONS IN THE CONTEXT OF MODERN PROBLEMS

IMCRA
International Meetings and Conferences Research Association

# Science, Education and Innovations in the Context of Modern Problems

**Volume 8, Issue 10 | 2025**

Editor-in-Chief & Chair of the Editorial Board
Dr. **Rahil Najafov** (Azerbaijan)

International Multidisciplinary Collaboration and Research Association (IMCRA) | Regular Issue
Baku, Azerbaijan
**imcra-az.org**

**Science, Education and Innovations in the Context of Modern Problems (SEI)**
**Sci. Educ. Innov. Context Mod. Probl.**

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ISSN (Print): 2790-0169
ISSN (Online): 2790-0177
DOI Prefix: 10.56334/sei
Established: 2018
Publishing Country: Azerbaijan
Publisher: *IMCRA – International Meetings and Journals Research Association*
Editor-in-Chief: Dr. Rahil Najafov (Azerbaijan) | ORCID: 0000-0003-2460-6333
Email for Submission & Contact: **editor@imcra-az.org**, **contact@imcra-az.org**
Language: English (partly French)
Publication Frequency: Monthly (12 times)
Peer Review Type: Double-blind peer review
Access Model: Open Access

## Abstracting and Indexing

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RESEARCH ARTICLE

# The Possibility of Recognizing the Legal Personality of Artificial Intelligence

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**Doi Serial** https://doi.org/10.56334/sei/8.10.1

**Keywords** Artificial intelligence, legal personality, autonomy, electronic personality.

**Abstract**

The widespread applications of artificial intelligence (AI) across various sectors, coupled with its autonomous, machine-based reasoning, are generating increasing pressure for a defined legal status—namely, recognition of legal personality. This shift appears likely to be reflected in future legislation, though it also necessitates the establishment of legal mechanisms and principles aligning with AI's core purpose: serving humanity.

**Citation.** Boulakouas A., Boulakouas Y., Abbassi S., Benazzoug M. (2025). The Possibility of Recognizing the Legal Personality of Artificial Intelligence. *Science, Education and Innovations in the Context of Modern Problems*, 8(10), 5–9. https://doi.org/10.56352/sei/8.10.1

**Issue:** https://imcra-az.org/archive/384-science-education-and-innovations-in-the-context-of-modern-problems-issue-10-vol-8-2025.html

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Received: 15.05.2025 | Accepted: 20.06.2025 | Published: 01.08.2025 (available online)

## Introduction

Artificial intelligence represents one of humanity's most important technological advances, providing services across sectors with an emphasis on protecting individuals and their data. The term "artificial intelligence" emerged through John McCarthy at the Dartmouth Conference in 1956, marking a new scientific endeavor: mimicking human reasoning via machine models capable of learning behaviors. The main scientific aim of AI is to mimic human thought in numerous behaviors and actions, seeking to make robots or artificial minds resemble the human mind—an inherently impossible task, since AI, however advanced, cannot achieve the reliability of human intelligence. Mistakes remain possible, sometimes leading to harm.

The operation of AI in service to humans raises legal questions about AI's status and the possibility of recognizing its legal personality. Scholarly debate has resulted, dividing opinion on whether to acknowledge such personality and on identifying who is responsible for errors caused by AI.

Given these complexities, this study investigates:

**To what extent is it possible to recognize the legal personality of artificial intelligence?**

This inquiry aims to establish who should bear liability for harms caused by AI, adopting a comparative analytical method and reviewing legal frameworks governing AI's legal status.

### Structure of the Study:

- Section One: The Legal Concept of Artificial Intelligence
- Section Two: Conditions for Recognizing Legal Personality
- Section Three: The Possibility of Recognizing AI's Legal Personality

## Section One: The Legal Concept of Artificial Intelligence

Artificial intelligence is the study of intelligent behavior, encoded into artificial machines—and is considered one of the most complex topics facing humanity.

### Scientific Definition of Artificial Intelligence

AI has many definitions. Marvin Minsky described it as a science branch concerning machines capable of solving problems that a human can address using intelligence. AI does not encompass all machines, but rather refers to computer systems and programs able to simulate human thought. E. Barr and E. Feigenbaum described it as a computer science branch focused on building intelligent systems that replicate recognized human intelligence traits. Searle, in contrast, asserted that computers merely simulate intelligent behavior, not genuine human cognition.

Another definition frames AI as: an advanced, employed technology aiding the management of processes and tasks more intelligently than its human creators, by enabling self-learning and autonomous evolution.

Thus, AI can be regarded as a behavioral study aiming to render machines/ computers capable of mimicking human intelligence.

### The Legal Nature of Artificial Intelligence

Scholars diverge over AI's legal nature, especially regarding robots. Most legislation classifies robots as things, whose owners are guardians responsible under strict liability—this is the traditional view. Modern scholarship, however, tends to grant robots legal standing so they act as representatives, not mere objects, thus forming the basis for a legal status (future "electronic personality") for robots. The 2017 European Civil Law on robotics introduced the theory of a human proxy responsible for compensation for harm caused by robots; this proxy might be the manufacturer, programmer, operator, owner, or user.

## Section Two: Conditions for Recognizing Legal Personality

To explore the legal personality of AI, it is necessary first to define legal persons and the requirements for recognition. The law identifies two types: natural persons and juridical (legal) persons.

### Conditions for Recognizing Natural Personality

Natural personality is the legal personality recognized by law for humans, which entails a set of rights and obligations. Under Algerian civil law, personality begins at live birth (Ordinance 75-58, 1975). Proof of birth is required, typically through civil status registration, and each natural person is assigned a surname and at least one given name (Articles 26 and 28). Recognition ends upon death[iii].

### Conditions for Recognizing Juridical (Legal) Personality

A juridical person consists of a group of people or property cooperating for a specific time to achieve a particular goal, with shared collective interests independent from those of individuals. Once conferred, a juridical person enjoys a legal patrimony, capacity, domicile, a representative, and the right to litigate (Article 50, Ordinance 75-58). Recognition may occur by force of law (e.g., for public legal persons, the state, local groups, public bodies), at creation (for civil companies), or upon commercial registration (for commercial companies). Termination can occur by law, dissolution, bankruptcy, or similar events.

## Section Three: The Possibility of Recognizing AI's Legal Personality

The debate over recognizing AI's legal personality is driven mainly by the need to designate the legally responsible person for harm caused by smart machines—especially robots.

### I. Scholarly Perspectives on Recognizing AI's Legal Personality

Positions vary:

- Some argue there is no need for AI to acquire legal personality since the law already treats it as a "thing," allowing mandatory insurance to address liability for AI-caused errors.

- Others see AI/robots as agents empowered to perform tasks for humans, implying recognition as a natural person. This is countered by civil law Article 571, which defines agency as a contract between two persons, excluding AI from natural personality rules.

- Another view favors the possibility of granting AI—especially robots—juridical personality, giving AI legal rights similar to artificial persons: independent assets, domicile, representation, and standing to sue/ be sued. Yet, while artificial persons such as companies are managed by humans, AI aims to replicate human intelligence autonomously—fundamentally different from human-controlled entities.

### II. Towards Recognition of Electronic Personality for AI

Currently, AI and robots do not possess full autonomy to justify electronic legal personality. However, recognition could follow complete autonomy—an aspiration reflected in European policy. The European Civil Law on robotics urges study

of the electronic personality concept for robots that autonomously make decisions or interact independently. In such cases, advanced autonomous AI may bear electronic personality and be liable for its own actions.

**Author's View:** Recognition of electronic legal personality is a positive direction—provided it is conditioned by AI's unique characteristics and serves human advancement. Complete autonomy is likely unattainable; self-management is a type of autonomy, yet does not equate to natural or juridical personhood with corresponding rights and duties. Therefore, mechanisms and principles (especially for engineers designing advanced AI and robotics) should focus on:

- Protecting humans from AI-related harm;
- Promoting human welfare and agency in their interaction with AI;
- Establishing legal rules defining recognition conditions, rights, duties, and mechanisms for terminating electronic personality if breached or faulty.

## Conclusion

Future developments in AI may achieve true autonomy, which could warrant recognition of legal personality in the form of a "special electronic personality" for AI. This would necessitate legal mechanisms specifically tailored to safeguard humanity, including, when required, clear grounds for terminating such electronic personality.

## Key Findings:

1. AI is a behavioral discipline that seeks to make machines simulate human intelligence.
2. There is scholarly disagreement concerning AI's legal status, especially regarding robots.
3. AI's legal personality currently cannot be classed among existing recognized personalities.
4. There is a genuine prospect of recognizing an electronic personality for AI in the near future, should AI attain full autonomy.

## Key Recommendations:

1. Work toward the recognition of electronic personality for artificial intelligence.
2. Establish mechanisms and principles to which AI must be subject.
3. Treat electronic legal personality as an exceptional status, not necessarily requiring full autonomy, to preserve human rights and interests.
4. Recognition of electronic personality should carry rights and duties distinctly different from those attached to natural or juridical persons.

## Acknowledgement

The authors would like to express their sincere gratitude to the respective institutions and laboratories supporting this research: the Contracts and Business Law Laboratory, Faculty of Law, University of the Mentouri Brothers – Constantine 1; the Law Department at the University Center of Barika; the Governance Horizons Laboratory for Sustainable Local Development; and the Laboratory of Rural Economic Development, Faculty of Law and Political Science, University Ibn Khaldoun, Tiaret. Their support and academic environment greatly contributed to the successful completion of this study.

## Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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RESEARCH ARTICLE

# Students' Perceptions of Electronic Content in Virtual Classrooms: A Field Study of a Sample of Students from the Department of Educational Sciences at the University of Biskra

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**Doi Serial** https://doi.org/10.56334/sei/8.10.2

**Keywords** Electronic content, virtual classrooms, students' perceptions, electronic interaction, educational difficulties.

**Abstract**

The present study aimed to investigate the perceptions of students in educational sciences regarding electronic content within the environment of virtual classrooms. The research focused on three principal themes: the quality of the content, the level of student interaction, and the difficulties encountered by students in using educational platforms. The researcher employed a descriptive–analytical approach, which was deemed appropriate for the nature and objectives of the study. The sample comprised 100 male and female students from the Department of Educational Sciences, Faculty of Social Sciences, Mohamed Khider University of Biskra, who were selected via a simple random sampling method.

To collect data, a questionnaire consisting of three axes was developed:

- The first axis addressed the quality of electronic content in terms of clarity, organisation, and currency of information.
- The second axis examined the extent of students' interaction with the content through virtual participation and communication tools.
- The third axis explored the difficulties faced by students in utilising educational platforms, whether technical, organisational, or psychological.

The results indicated that students' perceptions concerning content quality and interaction were generally moderate, whereas their awareness of the obstacles impeding full benefit from e-learning was relatively high. The study concluded with the need to develop electronic content that meets students' needs and to provide ongoing technical and educational support to increase the effectiveness of virtual classrooms and ensure the quality of distance learning.

**Citation.** Sellami M., Djimaoui N. (2025). Students' Perceptions of Electronic Content in Virtual Classrooms: A Field Study of a Sample of Students from the Department of Educational Sciences at the University of Biskra. *Science, Education and Innovations in the Context of Modern Problems*, *8*(10), 10–21. https://doi.org/10.56352/sei/8.10.2

**Issue:** https://imcra-az.org/archive/384-science-education-and-innovations-in-the-context-of-modern-problems-issue-10-vol-8-2025.html

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Received: 19.03.2025 | Accepted: 12.06.2025 | Published: 01.08.2025 (available online)

## Introduction

Educational institutions in the late twentieth century underwent profound transformations in their methods, modes, and fields of instruction in response to various challenges arising from the rapid advancement of information

technology, globalisation, and the emergence of new industries. These shifts prompted nations worldwide to compete in leveraging such developments to enhance prospects in employment, economic, social, and educational policies. Nevertheless, recent crises have brought about significant changes in educational concepts, resulting in the widespread adoption of distance learning models. The blended learning model subsequently emerged, raising questions concerning the quality of education, as well as its impact on students' motivation, acceptance, and integration with this educational approach, which was implemented abruptly.

With the proliferation of the internet and the development of e-learning platforms, virtual classrooms have become a flexible alternative to traditional education, offering students extensive opportunities to acquire knowledge in diverse and adaptable learning environments. However, the success of this experience largely depends on the quality of electronic educational content, the extent of students' interaction with it, and their ability to overcome the challenges associated with virtual learning.

Virtual classrooms represent one of the most significant components of e-learning, contributing to a radical transformation in university education. They provide an innovative, technology-based educational environment, enabling students to participate in lectures and interact with instructors and peers from various locations. These classrooms are characterised by a high degree of flexibility, as students can attend lectures in real time or revisit their recordings later, thus allowing them to learn in ways that suit their needs and schedules. Furthermore, interactive tools such as discussion rooms, instant messaging, and real-time surveys offer a more dynamic educational experience, enriching academic discourse and deepening understanding.

Moreover, virtual classrooms constitute an effective solution for delivering education in exceptional circumstances that hinder physical attendance, such as natural disasters or health crises. They also reduce financial burdens on universities by minimising their reliance on traditional infrastructure. In addition, virtual classrooms assist students in acquiring advanced technical skills that prepare them for the modern labour market, which increasingly demands digital competencies. For these reasons, virtual classrooms have become pivotal tools for universities striving to provide high-quality education that meets the needs of the digital age.

## 1. Research Problem

E-learning plays a pivotal role in enhancing both the personal and academic skills of learners. It enables students to develop critical thinking and problem-solving abilities through engagement with multimedia educational materials. Furthermore, this type of education helps improve technological proficiency, which has become essential in the modern labour market. Through virtual classrooms, students learn effective time management and collaboration with peers via digital tools. In addition, e-learning encourages innovation and creativity by providing diverse educational resources and innovative interactive tools. Thus, this system constitutes an effective means of preparing students to meet the demands of the twenty-first century.

Numerous studies have addressed and examined the subject of e-learning, each exploring different aspects of this educational environment. For example, the study by Hendal and Al-Khuzai (2022) aimed to explore Kuwait University students' assessment of their e-learning experience during the COVID-19 pandemic, revealing moderately positive attitudes towards e-learning alongside various challenges, such as technical problems and communication with instructors. Khawaldeh's study (2020) sought to identify the perceptions of University of Jordan students regarding the effectiveness of e-learning platforms in fostering self-learning skills, and the results revealed positive perceptions of the benefits of these platforms, albeit with limited obstacles. Al-Anzi's study (2021) aimed to explore the perceptions of secondary school female students regarding the educational use of the Edmodo social learning network, with results generally showing positive perceptions, despite some difficulties related to internet connectivity. Finally, the study by Rabhi (2021) aimed to investigate the perceptions of Al-Aqsa University students regarding e-learning during the COVID-19 pandemic and concluded that there is a need to improve the e-learning environment by enhancing access to and interaction between students and lecturers.

Electronic educational content constitutes a vital foundation within the digital education system, contributing to the delivery of knowledge through innovative and diverse means. This type of content is distinguished by its flexibility, as it can be designed to accommodate various learning styles—whether visual, auditory, or interactive. Electronic content encompasses multiple forms, such as educational videos, presentations, interactive simulations, and e-books, rendering it more engaging and effective for learners. It also enables the continuous updating of information, thereby ensuring the provision of content that is current and aligned with scientific advancements.

Moreover, electronic educational content enhances the quality of education by offering self-assessment and interactive tools that enable students to gauge their progress and understanding of course materials. This form of

content also allows access to global educational resources, thereby enriching the learning experience and promoting cultural and intellectual diversity. Moreover, electronic content serves as an effective means of supporting self-directed learning, as learners can access educational materials at any time and from any location. Owing to these advantages, electronic educational content has become an essential component in achieving the objectives of modern education.

Within this context, students in educational sciences emerge as a cohort that is particularly aware of the intricacies and components of the educational process, rendering their perceptions of electronic educational content especially significant. Their evaluation of the quality of this content, the degree of interaction facilitated by virtual classrooms, and the challenges they encounter can provide valuable insights for the improvement of e-learning.

This study aims to explore these perceptions in depth and analyse the impact of content quality and design on the achievement of educational objectives. It also seeks to identify the challenges faced by students during virtual learning and to offer practical recommendations that contribute to enhancing the educational experience. Through this research, it is possible to support the development of innovative educational strategies that advance e-learning and keep pace with the rapid transformations occurring in the field of digital education.

## 2. Main Research Question:

What are the perceptions of students in educational sciences regarding the quality of the electronic educational content used in virtual classrooms?

### 1.2. Subquestions:

- To what extent is the quality of the electronic educational content provided to students?
- To what extent do students interact with electronic educational content?
- What difficulties are encountered by students when using e-learning platforms?

## 3. Objectives of the Study:

1. To evaluate the quality of the electronic educational content used in virtual classrooms from the perspective of students in the educational sciences.
2. To explore the level of interaction achieved by students within virtual classrooms.
3. To identify the difficulties and challenges faced by students when using virtual learning platforms.

## 4. Significance of the Study:

1. This research may contribute to understanding the role of electronic educational content in enhancing virtual education in line with technological advancements and the digital transformation of the educational process.
2. This highlights the strengths and weaknesses of electronic educational content, thereby assisting educational institutions in improving the quality of e-learning to meet students' needs better.
3. Understanding students' perceptions may facilitate the improvement of virtual classroom environments and increase their effectiveness in achieving educational objectives, thereby enhancing the virtual learning experience.
4. This research contributes to identifying the problems that hinder students from fully benefiting from virtual education.

## 5. Definition of Concepts:

### 1.5. Perceptions:

Jaensh defines perception as the ability possessed by specific individuals to determine their view of things they have previously seen (Chico, 2018, p. 54). In this study, perceptions refer to the opinions and impressions formed by students regarding various aspects of their experience with e-learning through virtual classrooms and their evaluation of the quality of electronic educational content. Perceptions are measured via a questionnaire comprising a set of questions designed to gather data on students' opinions and to assess their perceptions concerning the following: the quality of electronic educational content, interaction within virtual classrooms, and the difficulties they encounter.

### 2.5. E-learning:

Al-Owaid and others define e-learning as "education aimed at creating an interactive environment rich in applications based on computer and internet technologies, enabling access to learning resources at any time and from any place" (Boujenah, 2020, p. 88).

In this study, e-learning refers to the educational process that takes place through the use of internet technologies, whereby lessons and learning activities are delivered via dedicated electronic platforms. E-learning involves the use of

multimedia tools such as videos, texts, and interactive assessments, enabling students to access educational content digitally within a virtual learning environment.

### 3.5. Virtual Classrooms:

Virtual classrooms are a collection of programmes comprising activities analogous to those in traditional classrooms, conducted by both teachers and students, despite geographical barriers between them. Nevertheless, both parties work together either synchronously or asynchronously, interacting via online dialogue and posting messages visible to all network participants (Sharif & Taqabahi, 2022, p. 50).

In this study, virtual classrooms refer to educational environments conducted via the internet, where students interact with instructors and peers through digital learning platforms. Lectures and interactive activities are delivered at scheduled times, utilising communication tools such as audio, video, text chat, and online assessments. Virtual classrooms enable students to engage directly with both the educational content and the instructor within a virtual setting.

### 4.5. Electronic Educational Content:

Electronic content comprises educational materials delivered through digital media, such as text, images, videos, diagrams, and interactive simulations. This content is utilised in e-learning environments to provide information flexibly and interactively, thereby enhancing educational quality and facilitating access to knowledge (Bouthaljah, 2021, p. 120).

Procedurally, the electronic educational content in this study refers to educational materials provided online via digital learning platforms. This content includes texts, videos, presentations, assessments, interactive activities, and supplementary resources designed to enhance the student learning experience. The content is designed to be accessible online and must be current, organised, and clear to meet the educational needs of students.

Each of these concepts is measured in this study through a questionnaire comprising questions about students' experiences with e-learning and virtual classrooms, as well as their evaluation of the quality of electronic educational content and their engagement with these tools.

## 6. Previous studies:

### 1.6. Study by Hendal and Al-Khuzai (2022):

This study aimed to explore the e-learning experiences of Kuwait University students during the COVID-19 pandemic following the closure of schools and universities in Kuwait.

**Methodology:** This study was conducted during the summer semester of the 2019/2020 academic year and used a questionnaire comprising three sections: (1) an evaluation of the course, (2) an evaluation of the instructor, and (3) difficulties encountered by the students. The questionnaire was administered to a sample of 851 male and female students.

**Results:** The findings revealed moderately positive attitudes towards the e-learning experience, with no statistically significant differences based on gender or academic year. However, differences were observed between students from humanities faculties and those from scientific faculties in favour of humanities faculties. The results also indicated that students faced numerous challenges and problems, categorised as technical issues, curriculum-related problems, instructor competence, health and psychological problems, and communication difficulties.

### 2.6. Study by Khawaldeh (2020):

This study sought to identify the perceptions of University of Jordan students regarding the effectiveness of using e-learning platforms (Edraak) in developing self-learning skills within the National Culture course. The study sample consisted of 745 students who took the National Culture course during the second semester of the 2017/2018 academic year. The descriptive-statistical method was employed. The results revealed that students' perceptions of the benefits of using e-learning platforms (Edraak) in teaching the National Culture course were high, and the obstacles to using Edraak were limited. The respondents indicated that e-learning platforms are effective in developing self-learning skills, with no statistically significant differences in their perceptions according to gender, academic year, college, or family income variables. The study recommended the use of e-learning platforms such as Edraak in teaching other general university courses to capitalise on their role in fostering students' self-learning skills.

### 3.6. Study by Al-Anzi (2021):

This study aimed to explore the perceptions of secondary school female students regarding their educational use of the social learning network Edmodo in light of the variables of academic year and frequency of use. The research adopted the descriptive survey method, with a sample consisting of 355 students from the city of Al-Rass in the

Kingdom of Saudi Arabia. Data were collected via a questionnaire developed according to a five-point Likert scale comprising 30 items distributed across two principal axes: the advantages and disadvantages associated with the educational use of Edmodo. The results indicated the following:

- The students' perceptions were generally positive, except for a negative observation concerning poor internet connectivity.
- The study also revealed no statistically significant differences in perceptions according to the academic year variable, whereas there were differences related to frequency of use, as students who rarely used the network exhibited less positive perceptions regarding its benefits in education.
- The study highlighted the need to enhance the integration of Edmodo and other social networks into general education because of their positive impact on supporting the educational process.

**4.6. Study by Rabhi (2021):**

This study aimed to explore the perceptions of Al-Aqsa University students regarding e-learning during the COVID-19 pandemic and to propose a framework for the development of e-learning in higher education institutions. The qualitative approach was utilised, involving the development of an electronic interview tool, which was administered to a sample of 94 students. The researcher relied on the PEEL method for analysing the responses, leading to the following findings:

- The study revealed that the eight criteria analysed were important for improving e-learning, with some being achieved while others were not.
- The study presented 32 proposed indicators that could be added to students' perceptions of the development of e-learning.
- The design of the e-learning environment requires improvements to ensure flexible access and interaction between students and lecturers.

## 7. Field study procedures:

### 1.7. Exploratory Study:

An exploratory study was conducted at the beginning of the research to identify students' initial perceptions of the subject and to achieve a preliminary understanding of the concepts related to the study. This study aimed to gather preliminary information to aid in the formulation of the main research instruments and to determine the areas of focus for the questionnaire.

#### 1.1.7. Objectives of the Exploratory Study:

1. To identify the key concepts related to electronic content, virtual classrooms, and interaction with educational platforms.
2. To examine students' understanding of the subject and the extent of their knowledge regarding the educational technology used in distance learning.
3. To identify prevalent patterns in the use of educational platforms and anticipate the difficulties students may encounter in interacting with electronic content.

### 2.7. Research Methodology:

The researcher employed the descriptive–analytical approach in this study, as it was deemed most suitable for the nature and objectives of the research. This methodology is among the most commonly used methods in educational and social studies, as it serves to describe phenomena as they exist in reality and to analyse them to reach accurate scientific conclusions. This approach was applied to the study of educational sciences students' perceptions of electronic content in virtual classrooms by collecting data through a questionnaire and analysing them statistically to derive indicators that facilitate a deeper understanding of the phenomenon under investigation.

### 3.7. Study Sample:

The study sample consisted of 100 male and female students from the Department of Educational Sciences, Faculty of Social Sciences, Mohamed Khider University of Biskra. They were selected via the simple random sampling method to ensure the representation of different academic levels within the department and to achieve a degree of diversity in perspectives regarding electronic content in the virtual classroom environment. The sample selection also took into account the need to represent students in the virtual education system who have experience with electronic learning platforms, thereby enhancing the reliability of the study's findings.

### 4.7. Study limitations:

- **Thematic delimitations:** This study focuses on the perceptions of educational sciences students regarding electronic content in virtual classrooms, specifically addressing three axes: content quality, interaction with content, and challenges related to the use of educational platforms.
- **Temporal delimitations:** The study was conducted during the second academic semester of the 2024–2025 academic year.
- **Spatial delimitations:** This research was carried out at the Faculty of Social Sciences, Mohamed Khider University of Biskra, Algeria.
- **Human delimitations:** This study involved a sample of 100 male and female students from the Department of Educational Sciences who were selected via a simple random sampling method at various academic levels.

**5.7. Research instrument:**

**5.7.1. Description of the instrument:**

The study relied on a questionnaire designed to reveal the perceptions of educational sciences students regarding electronic content in the virtual classroom environment. The instrument was constructed following descriptive-analytical methodology and was based on previous literature and scientific studies addressing the subject of e-learning. The instrument comprises three principal dimensions, each containing nine items formulated clearly and straightforwardly to measure students' opinions accurately. A five-point Likert scale was employed to determine the degree of respondents' agreement with each item according to the following scale: strongly agree, agree, neutral, disagree, and strongly disagree.

The following table presents the dimensions of the research instrument and the distribution of items for each dimension:

**Table 1**

*Dimensions of the Research Instrument*

| Dimension Number | Dimension Name | Number of Items | Description of Dimension |
|---|---|---|---|
| 01 | Quality of Electronic Content | 09 | Measures the clarity, organisation, recency, and accuracy of information provided electronically. |
| 02 | Interaction with Electronic Content | 09 | Focuses on students' interaction with the content through participation and communication tools. |
| 03 | Difficulties in Using Educational Platforms | 09 | Addresses the technical, psychological, and organisational challenges impeding the effective use of platforms. |

**2.5.7. Validity and Reliability of the Instrument**

**First: Questionnaire validity:** The validity of the questionnaire was verified via the following methods:

**1. Expert Validity:**

The questionnaire was submitted to five experts and specialists in the fields of educational sciences and e-learning. The experts reviewed the items in terms of their formulation, relevance, clarity, and extent to which they were aligned with the dimensions and objectives of the study. On the basis of their feedback, certain items were revised to ensure the instrument's face validity.

**2. Internal consistency validity (Pearson correlation coefficient):**

The correlation coefficients between each questionnaire item and its corresponding dimension were calculated to verify the consistency of the items with their respective dimensions. Additionally, the correlation coefficient for each dimension with the overall questionnaire was determined.

The results of the Pearson correlation coefficient indicated that all the items were statistically significant at the 0.05 and 0.01 levels, indicating the validity of the items and their associations with their dimensions. The following table presents the correlation coefficients of the dimensions with the overall scale:

**Table 2**

*Correlation Coefficients of the Dimensions with the Overall Scale*

| Pearson Correlation | Dimension |
|---|---|
| 0.88 | Quality of Electronic Educational Content |
| 0.84 | Interaction in Virtual Classrooms |
| 0.79 | Difficulties in Virtual Learning |

Table 2 clearly shows that all the correlation coefficients between the dimensions and the overall scale indicate a strong relationship. Therefore, the questionnaire is considered reliable for measuring students' perceptions of e-learning and virtual classrooms, with the dimensions demonstrating good integration in capturing these perceptions.

**Second: Reliability of the instrument**

The reliability of the questionnaire was assessed via Cronbach's alpha coefficient to ensure the internal consistency of the instrument. The alpha coefficient was calculated for each dimension of the questionnaire individually, as well as for the entire instrument. The following table presents the Cronbach's alpha values.

**Table 3**

*Cronbach's alpha coefficients for the dimensions and the overall instrument*

| Cronbach's Alpha | Dimension |
|---|---|
| 0.85 | Quality of Electronic Educational Content |
| 0.80 | Interaction in Virtual Classrooms |
| 0.82 | Difficulties in Virtual Learning |
| 0.87 | Overall Instrument |

It is evident from Table 3 that all the dimensions exhibited high reliability, reflecting that the questionnaire, as a research instrument, is dependent on obtaining accurate and reliable data.

**3.6.7. Statistical methods**

The researcher employed SPSS statistical software and relied on the following indicators:

- Standard deviation and arithmetic mean
- Cronbach's alpha coefficient
- Pearson correlation coefficient

## 8. Presentation and Discussion of the Study Results:

Upon completion of data collection and analysis via appropriate statistical methods, this section presents the study findings related to the perceptions of students in educational sciences regarding electronic content in the virtual classroom environment, according to the three main dimensions adopted in the research instrument: quality of electronic content, interaction with the content, and challenges associated with the use of educational platforms. The presentation of the results is followed by a scientific interpretation aimed at clarifying their significance in light of the theoretical framework and previous studies, highlighting the main trends reflected in the responses of the sample, and assessing their alignment with the study's objectives and research questions.

### 8.1. Presentation and Discussion of the First Research Question:

The first research question states, "To what extent is the quality of electronic educational content provided to students from their perspective?" To address this question, several steps must be undertaken, beginning with the calculation of the class interval, identification of response levels and estimation, followed by the computation of arithmetic means and standard deviations for the sample's responses.

**Level of Agreement | Standard Deviation | Arithmetic Mean | Item Statement | Item Number**

**1. Calculation of the Class Interval:**

Class interval = (Upper limit – Lower limit)/Number of categories = (5 – 1)/3 = 4/3 = 1.33

**2. Determination of Study Categories:**

- [1.00 to 2.33]: Low level of agreement
- [2.34 to 3.67]: Medium level of agreement
- [3.68 to 5.00]: High level of agreement

The following table illustrates the levels and estimation of response scores:

**Table 4**

*Levels and Estimation of Response Scores*

| Level | Score Estimation |
|---|---|
| Low | 1.00–2.33 |
| Medium | 2.34–3.67 |
| High | 3.68–5.00 |

**Table 5**

*Arithmetic Means and Standard Deviations of Sample Responses Regarding the Quality of Electronic Educational Content*

| Level of Agreement | Standard Deviation | Arithmetic Mean | Item Statement | Item Number |
|---|---|---|---|---|
| Medium | 1.05 | 3.30 | The electronic educational content is straightforward to understand. | 1 |
| Medium | 0.96 | 3.15 | The educational content is presented in an engaging and stimulating manner. | 2 |
| Medium | 1.12 | 3.27 | The educational materials are supported by multimedia (images, videos, diagrams). | 3 |
| Medium | 1.07 | 3.35 | The educational content is up to date and reflects the latest information in the field. | 4 |
| Medium | 1.00 | 3.48 | The educational content is organised in a way that facilitates access to information. | 5 |
| High | 0.66 | 3.83 | The language used in the educational content is appropriate and clear. | 6 |
| Medium | 0.86 | 3.55 | The educational content helps achieve the intended learning objectives. | 7 |
| Medium | 1.05 | 3.52 | Additional resources are available for further enrichment. | 8 |
| Medium | 1.22 | 3.24 | The electronic educational content supports critical thinking and problem-solving. | 9 |

Table 5 shows that the participants' overall evaluation of the quality of electronic educational content predominantly falls within the middle level, with arithmetic means ranging between 3.15 and 3.83. The statement regarding the appropriateness and clarity of the language used (Item 6) recorded the highest mean (3.83) with a low standard deviation (0.66), indicating a high level of agreement among participants regarding language clarity, an encouraging indicator of linguistic quality. The statement concerning the organisation of content and ease of access to information (Item 5) also recorded a good mean (3.48), reflecting an acceptable level of satisfaction with content organisation. In contrast, the lowest evaluation pertained to the statement about the attractiveness and stimulation of content presentation (3.15), indicating a relative weakness in the visual or interactive aspects of the content. Furthermore, the statement related to the support of critical thinking and problem solving (Item 9) received a relatively low mean (3.24) and a high standard deviation (1.22), reflecting considerable variation in participants' views and potentially indicating a shortcoming in this aspect of the content. Overall, the results reflect an acceptable level of satisfaction with the electronic content, with a clear need for improvement in areas such as attractiveness and deeper cognitive support, including the development of critical thinking and more effective utilisation of interactive media.

The data analysis indicates that the electronic educational content satisfactorily achieves certain pedagogical fundamentals in its design, particularly with respect to language clarity and the organisation of instructional material. This reflects the presence of a sound linguistic structure and ease of navigation and information access, suggesting an awareness among content developers of the importance of linguistic and organisational aspects in supporting learners' acquisition.

Conversely, the results highlight several areas requiring improvement, most notably the elements of attractiveness and engagement in presentation. This suggests that the content does not sufficiently employ interactive media or engaging features that capture the learner's interest and motivate continued learning. There is also a relative weakness in fostering critical thinking and problem-solving skills, which are higher-order abilities necessitating content that incorporates complex educational scenarios, open-ended questions, and cognitive tasks extending beyond rote memorisation and recall.

Furthermore, the variation in participants' responses to certain statements indicates differences in user experiences, which may be attributed to disparities in prior knowledge, previous exposure to electronic content, or inconsistencies in content quality across different units. This variability calls for a comprehensive review to increase the level of integration and consistency throughout all parts of the instructional material.

Overall, the findings reflect an acceptable foundation for the quality of electronic educational content; however, it remains necessary to address specific pedagogical aspects related to motivation, interaction, and cognitive development to achieve a more comprehensive and practical e-learning experience.

### 8.2. Presentation and Discussion of the Second Research Question:

The second research question states, "To what extent do students interact with electronic educational content?"

**Table 6**

*Arithmetic Means and Standard Deviations of Sample Responses Regarding Their Interaction with Electronic Educational Content*

| Level of Agreement | Standard Deviation | Arithmetic Mean | Item Statement | Item Number |
|---|---|---|---|---|
| Medium | 1.33 | 3.06 | Interaction with the instructor in virtual classrooms is easy and effective. | 1 |
| Medium | 1.05 | 2.99 | My inquiries are answered promptly during virtual lessons. | 2 |
| Medium | 1.08 | 3.30 | Interactive tools (chat, polling, participation) are available and easy to use. | 3 |
| Medium | 1.01 | 3.34 | I feel comfortable expressing my opinions in virtual classrooms. | 4 |
| Medium | 1.20 | 2.87 | Group discussions are encouraged in virtual classrooms. | 5 |
| Medium | 1.13 | 2.71 | The virtual environment allows collaboration with peers in projects and activities. | 6 |
| Medium | 1.04 | 2.83 | The interaction time in virtual classrooms is sufficient to clarify ideas. | 7 |
| Medium | 1.00 | 2.82 | I feel well connected with my peers and instructors in virtual classrooms. | 8 |
| Medium | 1.09 | 3.09 | Virtual classrooms enhance engagement in the learning process. | 9 |

Table 6 shows that the results related to the evaluation of interaction levels in virtual classrooms indicate that all nine statements fall within the medium level of agreement, with arithmetic means ranging from 2.71--3.34. The highest number of responses was recorded for the statement "I feel comfortable expressing my opinions in virtual classrooms," with a mean of 3.34 and a standard deviation of 1.01, indicating a reasonable degree of freedom of expression and psychological comfort within the online educational environment. This is followed by the statement concerning the availability and ease of use of interactive tools, with a mean of 3.30 and a standard deviation of 1.08, reflecting that technological tools are accessible and play a functional role in facilitating interaction.

Conversely, the lowest-rated items pertain to "the opportunity for collaboration with peers in projects and activities," with a mean of 2.71 and a standard deviation of 1.13, reflecting a shortcoming in fostering collaborative dimensions among students within the virtual environment. Similarly, the statement concerning the encouragement of group discussions received a mean of 2.87 and a standard deviation of 1.20, indicating the limited utilisation of virtual classrooms as spaces for discussion and idea exchange among learners. The item "I feel well connected with my peers and instructors" was also rated low, with a mean of 2.82 and a standard deviation of 1.00, which may reflect a weakness in social cohesion and a sense of belonging within the e-learning environment.

Overall, the standard deviations ranged from 1.00 to 1.33, indicating considerable variability in students' experiences, which further underscores the need to standardise the quality of interaction in virtual classrooms and to adopt educational practices that ensure a more balanced and inclusive learning experience for all students.

The results suggest that the level of interaction in virtual classrooms, as expressed by the students, was generally moderate, reflecting an acceptable degree of satisfaction with the nature of electronic interaction, although it did not reach the desired level for digital learning environments. The findings indicate that the most effective aspects of

interaction were learners' comfort in expressing their opinions and the availability of technical tools such as chat and participation features, which demonstrate partial success in establishing an interactive environment that allows for freedom of expression and provides accessible means of communication.

In contrast, notable shortcomings emerged in terms of collaborative and social communication, as participants reported an apparent lack of opportunities for peer collaboration within virtual classrooms and limited encouragement for group discussions. This suggests that the e-learning environment still lacks systematic mechanisms to enhance participatory learning and group interaction, which may reduce the effectiveness of learning and impact the sense of belonging and integration within the academic community.

Furthermore, the variation in students' responses to several items reflects the presence of individual differences in the extent to which learners benefit from the virtual learning environment. This may be attributed to differences in their digital backgrounds, the level of teacher engagement, or the nature of the instructional content delivered. This indicates a pressing need to improve educational practices in virtual classrooms by enhancing the human and social dimensions of learning and implementing pedagogical approaches that foster active participation and teamwork. Such improvements would contribute to creating a more dynamic and inclusive learning environment.

### 8.3. Presentation and Discussion of the Third Research Question:

The third research question states, "What are the difficulties encountered by students when using e-learning platforms?"

**Table 7**

*Arithmetic Means and Standard Deviations of Sample Responses Regarding the Main Difficulties Faced by Students when using Educational Platforms*

| Level of Agreement | Standard Deviation | Arithmetic Mean | Item Statement | Item Number |
|---|---|---|---|---|
| Medium | 1.15 | 3.46 | I have difficulty using virtual learning platforms. | 1 |
| High | 0.63 | 4.42 | Internet connectivity is unstable and affects the learning experience. | 2 |
| Medium | 1.14 | 3.51 | I feel isolated and do not have sufficient communication with my peers. | 3 |
| High | 1.03 | 3.83 | I find it challenging to organise my time during virtual learning. | 4 |
| High | 0.93 | 3.72 | The educational content does not cover all the aspects I need. | 5 |
| High | 1.03 | 4.18 | I find it difficult to follow lectures due to distractions in the home environment. | 6 |
| High | 0.81 | 4.31 | I find that virtual classrooms do not provide the same level of interaction as traditional learning. | 7 |
| Medium | 0.94 | 3.41 | I face technical challenges when using e-learning tools. | 8 |
| Medium | 0.84 | 3.51 | I suffer from a lack of technical support when facing technical problems. | 9 |

From Table 7, it is evident that students participating in virtual classrooms face a range of challenges spanning technical, organisational, and psychological issues. The most prominent difficulty is the instability of internet connectivity, which received the highest level of agreement, with a mean of 4.42 and a standard deviation of 0.63. This finding indicates that weak digital infrastructure constitutes a significant obstacle to the learning experience.

Additionally, the findings show that distractions in the home environment and difficulties in following lectures are among the main challenges affecting learners' ability to engage with educational content, as reflected by a mean of 4.18 and a standard deviation of 1.03 for the corresponding item. The study also revealed that learners perceive virtual classrooms as not providing the same level of interaction as traditional classrooms do, with this statement achieving a mean of 4.31 and a standard deviation of 0.81, reflecting a sense of lack of direct communication and active participation.

Despite the existence of specific technical difficulties, such as challenges in using educational platforms and insufficient technical support, these issues were less influential than other problems were, with means ranging between 3.41 and 3.51 and standard deviations ranging from 0.84 to 1.14. These results suggest that improving digital infrastructure, providing better technical support, and organising time in ways that foster social interaction are crucial factors for enhancing the virtual learning experience.

The analysis of the study's results reveals several important indicators concerning the nature of the difficulties faced by learners in virtual learning environments. The findings show a general sense among participants of multiple challenges affecting the quality of their educational experience, varying from technical issues to those related to self-organisation, in addition to problems related to social interaction and motivation.

From a technical perspective, difficulties stem from unstable internet connections and limited technical support, both of which hinder effective engagement in the educational process, particularly in environments heavily reliant on direct connection and real-time interaction. Furthermore, problems with handling digital tools and educational platforms emerged, indicating the need for training users—both instructors and learners—in the efficient use of these technologies.

From an educational and organisational perspective, the results indicate that many learners face challenges in time management and overcoming distractions, particularly in the absence of direct supervision and a structured classroom environment. This highlights the importance of developing self-directed learning skills and enhancing students' capacity to take responsibility for their learning.

At the same time, there is evident weakness in social interaction and a sense of isolation, which negatively affects emotional and communal engagement in the learning process. This deficiency in communication between students and their instructors represents one of the most significant shortcomings of virtual learning and calls for the adoption of interactive strategies that strengthen human relationships, even within digital environments.

Overall, the results demonstrate that the virtual learning experience continues to face challenges that require comprehensive solutions, combining infrastructure development, enhanced technical and pedagogical support, and the design of more interactive and contextually relevant educational content, alongside fostering learners' skills in self-organisation and effective communication.

## Conclusion:

This study provides a deeper understanding of educational science students' perceptions of electronic content in virtual classroom environments. The findings revealed that students encounter specific challenges when dealing with electronic learning platforms, particularly concerning content interaction and quality. The study also underscores the importance of improving the quality of electronic content and providing adequate technical support to ensure a productive learning experience. Although virtual classrooms offer considerable opportunities, they still require enhancements across various technical and organisational aspects to ensure greater student engagement and to maximise the benefits of distance learning environments.

On the basis of the findings presented, this study proposes a set of recommendations as follows:

1. **Enhancing the Quality of Electronic Content:**
2. Periodically update and develop electronic content to reflect the latest information in the field, ensuring that the content is organised, clear, and easily comprehensible for all students.
3. **Continuous Technical Support:**
4. Provide effective technical support services for students to assist them in overcoming the technical issues encountered while using educational platforms.
5. **Promoting Student Interaction:**
6. Develop interactive tools to increase student engagement with the content, such as adding interactive activities, discussion forums, and innovative means of communication.
7. **Training Students in the Use of Educational Platforms:**

8. Organise workshops and training sessions to enable students to use educational platforms more effectively and efficiently, with a focus on improving self-directed learning skills.
9. **Enhancing Psychological and Social Support**
10. The virtual classroom environment should incorporate strategies to create a collaborative social atmosphere among students, which helps reduce feelings of isolation and fosters positive interaction.
11. **Improving Interaction between Students and Instructors:**
12. Instructors should allocate regular periods for interaction with students in virtual classrooms, thereby enhancing their understanding of the content and increasing their participation in the learning process.

## Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Acknowledgement

The authors would like to express their sincere gratitude to the students of the Department of Educational Sciences at Mohamed Khider University of Biskra for their valuable participation in this study. Special thanks are extended to the Faculty of Social Sciences for their support in facilitating data collection. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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RESEARCH ARTICLE

# Statistical Modeling and Analysis of Online Examinations: Assessing the Prevalence of Cheating

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**Doi Serial** https://doi.org/10.56334/sei/8.10.6

**Keywords** Online Exam; Cheating; Statistical Analysis; Offline Exam

**Abstract**

In this paper, the authors build a model that predicts the grade point from a collection of independent variables including student characteristics and exam marks achieved in four marketing management courses using data from four courses. The data from four courses in marketing management, for an off-line class in a master's in business management program taught in 2019 and the same set of four courses in marketing management taught to an on-line class in 2020 was taken. Although the number of students enrolled was almost equal, and the courses, despite being offered a year apart, were nearly comparable in structure and content, the teaching and assessment for 2019 was conducted offline, whereas it was conducted online in 2020. In the set of four courses offered in 2019 using the offline mode, the exam was proctored and offline but for the same courses offered in 2020, the final exam was also proctored but online. The authors predicted that if exams were taken without any misconduct, the prediction model would have the same explanatory power for all exams, and that if there was malpractice, the explanatory power would be lower. Their findings show that the two datasets are similar; there are variations in the independent variables that statistically and significantly predicted the Grade Point Average (GPA). The R-squared statistic suggests that the model for prediction is strong. Hence there is reason to believe that malpractice was taking place when the examinations were online, in spite of it being proctored. The goal of this paper is to provide teachers with practical ideas for administering proctored tests in their online courses.

**Citation.** Raman R., Gupte R. (2025). Statistical Modeling and Analysis of Online Examinations: Assessing the Prevalence of Cheating. *Science, Education and Innovations in the Context of Modern Problems*, *8*(10), 55–61. https://doi.org/10.56352/sei/8.10.5

**Issue:** https://imcra-az.org/archive/384-science-education-and-innovations-in-the-context-of-modern-problems-issue-10-vol-8-2025.html

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Received: 24.03.2025 | Accepted: 05.06.2025 | Published: 01.08.2025 (available online)

## Introduction

It is a general belief among academicians that the misconduct and malpractice in examinations is growing exponentially [1]. With the growth in information technology and its gadgets, students are becoming distorted geniuses, and are finding innovative ways to cheat in the examinations [2]. Literature indicates that academic dishonesty is a menace to handle and malpractice during online assessments, tracking them and dealing with the same is not easy [3]. Existing literature also indicates that academic dishonesty is more widespread when the courses are delivered and evaluation is taken using the online mode [4].

With the covid19 pandemic many universities have been forced to conduct sessions and examinations online. The main aspect of online examinations and online class is the ambiguity of mapping and monitoring the student's environment with a 360-degree view [5]. It is impossible to know if there are others standing behind the screen and are prompting or if it is a group work that is adopted while attempting the exam, or if there are social media channels and groups where the answers are being discussed [6]. It's also impossible to tell if an assignment or an online exam was completed by an individual or a group of people working together. The authors of this study provide the results of an experiment in which identical tests were given off-line in a proctored environment and online in a proctored context [7]. The aspects which were constant were the instructor who taught the courses, the textbook and the slide deck used for the courses and the approximate level of difficulty. The goal of this article is to provide teachers with practical ideas for administering proctored tests in their online courses [8].

## Review of Literature

There is existing literature that gives information about the efficacy of online teaching and online evaluation. Literature indicates divergent views about online assessment. One view point from the literature indicates that online proctored examination is better than online non-proctored examination due the ease of cheating that is possible in a non-proctored online examination [9]. Also when students are located at different geographical locations, proctored examinations can be trusted when they are conducted are at proctored testing locations [10]. Another view that is given by the literature is that when the questions are randomized, and if the database from which the questions are drawn is large, if the complexity of the questions is high which can enable the exam to be an open book examination, then the chance of cheating is low for both proctored and non- proctored online examinations [11]. There is extensive literature on cheating in examinations, the determinants and behavioural aspects related to cheating in examinations [12]. Limited literature is available for comparing the chance to cheat and the cheating behaviour between online and offline examinations

Very limited literature is available on cheating in online classes and online examination [13]. According to certain research, the likelihood of cheating in exams is higher in the online mode than in the offline one. A few others argue that there is equal probability of cheating in both online and offline examination [14]

The goal of this study was to add to the current literature on cheating in marketing management examinations and provide beneficial tactics to instructors as they give proctored assessments in their online courses, due to the paucity of information on the subject [15].

## Research Methodology

For this study, the authors gathered data from four marketing management courses taught in an off-line master's in business administration programme in 2019, as well as the identical set of four marketing management courses offered in an on-line master's in business administration programme in 2020[16]. The number of student enrolment was 200 for the courses offered in 2019 and in 2020. The courses offered were identical in structure and content but the teaching and evaluation for 2019 was offline and in 2020 it was online [17]. In set of four courses offered in 2019 using the offline mode, The exam was likewise proctored and offline, however the final exam was also proctored and online for the same courses offered in 2020 [18]. The students were in the age group of 21 years to 25 years.

Both male and female students were present in all the courses which were offered in 2019 and 2020. The representation of females was 40%. The four examinations were conducted in marketing for 100 marks and the duration of each exam was for 120 minutes. The grade point average (GPA) for every student was calculated based on the norms set by the institution [19]. When the examinations were conducted offline in 2019 and online on 2020, the exam started at exactly the same time for all the test takers. In the offline mode, blank sheets of papers, and calculators were allowed and the norm was same for the online mode as well. Discussion with peers or copying from text or other reference material exam was not permitted in both the offline and online mode [20]. Use of mobile phone and other electronic communication, was also not allowed. In both offline and online mode, the proctors gave information about academic dishonesty and its impact on the student.

## Data Analysis

The table 1.1 give the descriptive statistics of the students who took the exam in 2019 and 2020. The descriptive statistics indicate that there is less standard deviation in the exam scores for the online mode. The standard deviation for age and work experience is almost similar. In the online exam option, the average GPA is also higher. The significance (two-tailed) of the paired t test plainly shows that there is a significant difference in exam scores. (Exam1, Exam2, Exam3, Exam4) and there is significant difference in the GPA between 2019 and 2020.

There is no significant difference in age and work experience of students between 2019 and 2020.

**Table 1.1** Descriptive Statistics

| Variable | 2019 | | | 2020 | | | Paired t Test | Sig (Two Tailed |
|---|---|---|---|---|---|---|---|---|
| | Mean | Standard Deviation | Number of Observations | Mean | Standard Deviation | Number of Observations | | |
| Age | 22.2 | 2.1 | 200 | 22.4 | 2.2 | 200 | -1.31 | 0.16 |
| Exam 1 | 75.84 | 8.11 | 200 | 90.81 | 2.31 | 200 | -2.31 | 0.00 |
| Exam 2 | 78.67 | 7.32 | 200 | 89.83 | 2.54 | 200 | -1.98 | 0.02 |
| Exam 3 | 77.66 | 7.65 | 200 | 89.91 | 2.31 | 200 | -1.43 | 0.00 |
| Exam 4 | 80.59 | 8.23 | 200 | 91.40 | 1.98 | 200 | -1.54 | 0.01 |
| Work Experience in Months | 21.71 | 2.3 | 200 | 21.76 | 2.1 | 200 | -2.11 | 0.11 |
| GPA Out of 10 | 8.22 | 0.45 | 200 | 9.36 | 0.34 | 200 | -0.92 | 0.00 |

GPA was modelled using the variables shown in table 1.2

Table 1.2 Variable Definition

| Variable | Definition |
|---|---|
| Age | Age of the Student |

| | |
|---|---|
| Work Experience | Number of months of work experience prior to joining the management programme |
| Exam 1 | Score in Exam 1 |
| Exam 2 | Score in Exam 2 |
| Exam 3 | Score in Exam 3 |
| Exam 4 | Score in Exam 4 |
| Gender | Student's Gender (Male or Female) |
| GPA | Grade Point Average |

For both offline and online tests, a regression model was used to develop a model for predicting examination score. The model for offline examination in 2019 was computed after regression modeling and based on the B values given in the table 1.3 the model is Predicted GPA = 2.246 + 1.145(Age) + 0.007( work Exp) + 0.031(Exam1) + 0.011(Exam2) + 0.014( Exam 3) + 0.008(Exam4) + 0.61(Gender).

When all other independent variables are maintained constant, unstandardized coefficients show how much the dependent variable fluctuates with an independent variable. The factors (age, job experience, gender, and Exam3) have all contributed significantly to the prediction (Sig. p.05) in all four tests.

The R square value of 68.6 percent, which indicates the models best fit and the amount of variation in the dependent variable that can be explained by the independent variables, is clearly seen in Table 1.4.

**Table 1.3** Regression Model- Offline Exam

| Variable | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Standard Error | Beta | | |
| Constant | 2.246 | 0.804 | | 1.306 | 0.760 |
| Age | 1.145 | 0.033 | 0.251 | 4.454 | 0.000 |
| Work Experience | 0.007 | 0.003 | 0.126 | 2.391 | 0.001 |
| Exam 1 | 0.031 | 0.005 | 0.344 | 6.025 | 0.073 |
| Exam 2 | 0.011 | 0.005 | 0.125 | 2.308 | 0.071 |
| Exam 3 | 0.014 | 0.003 | 0.277 | 4.979 | 0.000 |
| Exam 4 | 0.008 | 0.003 | 0.129 | 2.421 | 0.080 |
| Gender | 0.061 | 0.068 | 0.047 | 0.885 | 0.001 |

Table 1.4 Model Summary-Offline Exam

| Model | R | R Square | Adjusted R Square | Standard Error of the Estimate |
|---|---|---|---|---|
| 1 | 0.697 | 0.686 | 0.618 | 0.44153 |

The model for the online exam in 2020 was created using regression modeling, and it is based on the B values in Table 1.5. 2.416+ 0.845 (age) + 0.026 (work experience) + 1.31 (Exam1) + 1.11 (Exam2) + 0.14 (Exam 3) + 0.28 (Exam4) + 1.061 (Gender). When all other independent variables are maintained constant, unstandardized coefficients show how much the dependent variable fluctuates with an independent variable. It can be seen that all the four examination variables (Exam1, Exam2, Exam3, Exam4) have contributed significantly to the prediction (Sig. p <.05) and other variable like age, gender and work experience have no significant contribution. The R square value of 61.5 percent is readily seen in the model summary in Table 1.6, which illustrates the models best fit and the amount of variation in the dependent variable that can be explained by the independent variables.

Table 1.5 Regression Model-Online Exam

| Variable | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Standard Error | Beta | | |
| Constant | 2.416 | 0.704 | | 2.104 | 0.760 |
| Age | 0.845 | 0.013 | 0.531 | 3.234 | 0.081 |
| Work Experience | 0.026 | 0.023 | 0.216 | 1.133 | 0.071 |
| Exam 1 | 1.31 | 0.015 | 0.484 | 4.178 | 0.001 |
| Exam 2 | 1.11 | 0.125 | 0.275 | 1.038 | 0.001 |
| Exam 3 | 0.14 | 0.061 | 0.715 | 1.382 | 0.000 |
| Exam 4 | 0.28 | 0.021 | 0.239 | 2.231 | 0.000 |
| Gender | 1.061 | 0116 | 0.467 | 0.885 | 0.060 |

Table 1.6 Model Summary – Online Exam

| Model | R | R Square | Adjusted R Square | Standard Error of the Estimate |
|---|---|---|---|---|
| 1 | 0.697 | 0.651 | 0.631 | 0.51513 |

The authors predicted that if exams were taken without any misconduct, the prediction model would have the same explanatory power for all exams, and that if there was malpractice, the explanatory power would be different. The findings show that the independent variables' explanatory power is similar across the two datasets, implying that the possibility of malpractice occurring while the exams were online, despite being proctored, cannot be ruled out.

## Conclusion and Recommendation

As there is empirical evidence which indicates that malpractice cannot be ruled out when the examinations are conducted online, the authors suggest the following strategies, which can be followed by the faculty members as they administer proctored assessments in their online courses.

### Strategy 1

Conducting online viva voce can help to understand if the students have grasped what is taught to them. This can be time consuming but this can significantly reduce the chance of mal practice, if the exam is conducted in the online mode.

### Strategy 2

Open book examinations with plagiarism checks can help in reducing the chance of malpractice. When the questions are given which do not have one specific correct answer and when students apply what they learn and write type their answers which can be checked for plagiarism, the chance of malpractice can be reduced.

### Strategy 3

Gamification of examinations can make examinations interesting and competing. There are several platforms which can be used to gamify the examination which can make it interesting and engaging for students. If examinations are gamified then the students will be playing the game with each other while they actually are being evaluated. The chance of malpractice can be highly reduced if this strategy is adopted.

## Acknowledgements

The authors would like to thank the faculty and students of the Symbiosis Institute of Business Management, Pune, for their cooperation and support during data collection. We also acknowledge the support of the university's administration in facilitating the research environment. Special thanks to the statistical analysis team for their valuable assistance in data processing and interpretation.

## Conflict of Interest Statement

The authors declare no conflicts of interest related to this research. The views expressed are solely those of the authors and do not necessarily reflect the official policies or positions of the Symbiosis Institute of Business Management or Symbiosis International (Deemed University).

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RESEARCH ARTICLE

# Artificial Intelligence: From Concept to Application in Modern Society

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**Doi Serial** https://doi.org/10.56334/sei/8.10.7

**Keywords** Artificial Intelligence , Modern Society.

**Abstract**
Intelligence is a concept that is difficult to define precisely. It can be considered the crucial element that grants us the ability to achieve goals in the world around us. Humans, as well as some animals and machines, possess varying levels of intelligence. To clarify the nature of artificial intelligence, it is essential first to define the true meaning of human intelligence, which relates to mental abilities such as adapting to our surroundings, thinking, analyzing, planning, solving problems, and reaching accurate conclusions.
Artificial intelligence is defined as the machine's ability to simulate the human mind and the way it functions, such as its ability to think and explore. These machines are designed to perform tasks that typically require human intelligence, such as visual perception, speech recognition, decision-making, and language translation. AI technologies include machine learning, which enables computers to learn from experience and improve their performance over time without being explicitly programmed. Artificial intelligence has a significant impact on how we do things and the ways we interact with one another. It has applications in various fields, including healthcare, defense, transportation, education, the labor market, and society in general.

**Citation.** Kalli Dj. (2025). Artificial Intelligence: From Concept to Application in Modern Society. *Science, Education and Innovations in the Context of Modern Problems*, *8*(10), 62–71. https://doi.org/10.56352/sei/8.10.7
**Issue**: https://imcra-az.org/archive/384-science-education-and-innovations-in-the-context-of-modern-problems-issue-10-vol-8-2025.html

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Received: 05.12.2024 | Accepted: 20.05.2025 | Published: 01.08.2025 (available online)

Introduction:

Over the past few decades, the world has witnessed a tremendous development in the field of artificial intelligence, making it one of the most prominent domains that have transformed the face of the world. What once began as a fictional idea in science literature has become a tangible reality thanks to significant advances in computing and machine learning.

Artificial intelligence is one of the most important modern technologies that significantly contribute to rapid technological advancement and increased opportunities for innovation and growth across various fields. AI plays a vital role in enhancing quality, expanding capabilities, improving operational efficiency, and boosting productivity. Despite the widespread adoption of AI technologies and the frequent discussions surrounding their capabilities, they remain surrounded by ambiguity or exaggeration, which may raise unrealistic expectations. This makes the true understanding of artificial intelligence, its technologies, and its actual potential unclear to many decision-makers and executives in both the public and private sectors.

Among the benefits of artificial intelligence is its ability to perform extensive analysis of big data and extract information and insights from extremely large datasets. AI also contributes to the advancement of medical sciences—machine learning and deep learning technologies have revolutionized the way we diagnose diseases and develop treatments. Another benefit of AI is automated human interaction through advanced voice response

technologies and service robots, which facilitate unprecedented ways of connecting humans with technology. Furthermore, AI plays a role in sustainability and the environment through disaster prediction, environmental analysis, and sustainable resource optimization.

Despite the tremendous progress and multiple benefits of artificial intelligence, there remain challenges and concerns related to data security, privacy, and AI ethicsespecially the balance between protecting individual privacy and ensuring its responsible and ethical use.

This article aims to define the nature of artificial intelligence and assess its impact across various fields of life, while also addressing its risks by answering the following main question:

**How has the concept of artificial intelligence evolved from theoretical vision to modern perception, and what are the cognitive and ethical implications of this development?**

**Study Objectives:**

This study aims to:

- Analyze the development of the concept of artificial intelligence from its traditional theoretical framework to its modern form;
- Trace the historical and theoretical roots of the emergence of artificial intelligence and the evolution of its initial concepts;
- Identify the applications of artificial intelligence across various fields;
- Highlight the potential future impacts of artificial intelligence on humans and society.

## 1. Definition of Artificial Intelligence:

To define and clarify the concept of artificial intelligence, we must first define human intelligence, as this will help us later understand artificial intelligence, which simulates—or in many cases surpasses—human intelligence in various fields.

### First: Definition of Human Intelligence

Scientists have long differed in how to define and interpret human intelligence, with each scholar approaching it according to their area of expertise. Alfred Binet defined it as “the ability to understand, judge, and think well,” while the English philosopher Herbert Spencer described it as “the mental adaptation to external relations.”

From a scientific perspective, intelligence is often associated with academic and research-based abilities. Rezin and Dzint defined intelligence as: “a set of acquired scientific and intellectual abilities that allow for the acquisition of knowledge and its effective use to solve problems in an objective and constructive manner.”

Thus, human intelligence reflects the ability to solve problems using symbols and search techniques, as well as benefiting from prior experience to acquire new knowledge and apply it to find solutions to specific problems.

From the above, it becomes clear that there is no single, precise definition of human intelligence, which in turn has led to the absence of a unified and comprehensive definition of artificial intelligence. (Ben Mars Hala, Mkhansha Maria, 2024, p. 09)

### Second: Definition of Artificial Intelligence

Artificial intelligence is defined as the ability of a machine to simulate the human mind and its functions, such as thinking and exploring. With the tremendous advances in computing, it has become clear that machines are

capable of performing tasks more complex than previously imagined—such as exploring and proving complex mathematical theorems or playing chess at a high level of skill. AI is characterized by its speed, precision, and large storage capacity. However, no current program has yet been able to match the flexibility of the human mind, especially in tasks requiring deductive and analytical reasoning.

On the other hand, some applications have been able to rival expert-level performance in specific tasks, such as medical diagnosis, computer search engines, and the ability to recognize speech and handwriting. (Artificial Intelligence, 2021, p. 02)

Artificial intelligence is a field of computer science that aims to design systems and programs capable of performing tasks that require thinking, learning, and reasoning similar to that of humans. AI relies on a broad set of technologies and tools that allow computer systems to process and analyze data, extract patterns, and make decisions based on the available information.

Artificial intelligence can be categorized into narrow AI and strong (general) AI, as follows: (Ghada Nasr Hussein Al-Morsi, 2024, p. 76)

**Narrow AI** refers to specialized artificial intelligence systems that are capable of performing specific tasks—often outperforming humans in those tasks. However, their capabilities are limited to the specific domain for which they were designed.

**General AI** refers to artificial intelligence systems that possess cognitive abilities similar to those of humans. These systems have the ability to understand, learn, and apply knowledge across a wide range of tasks in ways that resemble human intelligence. They can think, reason, and solve problems.

## 2. Types of Artificial Intelligence:

To identify the types of artificial intelligence, we rely on two classifications: :(Ben Mars Hala, Mkhansha Maria, 2024, pp. 12-15)

### First: Types of Artificial Intelligence Based on Capability

Artificial intelligence can be classified according to its capabilities into three types:

- ✓ **Artificial Narrow Intelligence (ANI):**

  This type can effectively process a specific problem for a particular purpose. It can, for instance, play chess professionally or recognize objects in a specific image. Weak AI performs basic or partial tasks, such as study robots and voice response services like Apple's *Siri* and Amazon's *Alexa*.

- ✓ **Artificial General Intelligence (AGI):**

  In this type, intelligent machines are capable of performing human tasks without human intervention. They can engage in deep thinking and solve problems creatively. For example, computers can rapidly process massive datasets, such as Uber's self-driving cars.

- ✓ **Artificial Superintelligence (ASI):**

  This type can exceed human intelligence levels, outperforming even highly skilled specialists such as expert surgeons. It features unique learning capabilities, allowing machines to develop cognitive abilities through their own experiences. These machines can learn, plan, and make decisions independently and rapidly. It is worth noting that this type is still under development and represents the future of AI.

### Second: Types of Artificial Intelligence Based on Purpose

Artificial intelligence can also be classified according to its intended use into four types: reactive AI, limited memory AI, theory of mind AI, and self-aware AI.

- ✓ **Reactive Artificial Intelligence:**

  This is the oldest and simplest type, with systems that are purely reactive—without the ability to form memory or use past experiences in decision-making. IBM's *Deep Blue* chess-playing program is the ideal example of this type. It identifies current pieces and predicts possible moves to choose the best option without any awareness of past moves. Reactive machines are useful for performing basic functions by reading and responding to external stimuli—for example, scanning emails or recommending movies based on recent Netflix searches.

- ✓ **Limited Memory Artificial Intelligence:**

  This type has the ability to store data and make predictions based on past information. Limited memory AI offers more capabilities than purely reactive devices. Machines with limited memory can use historical data to make decisions—such as smart robots used in education, instant messaging apps, virtual assistant applications in smartphones, and self-driving cars. These cars store speed limits and driving data (e.g., traffic signals), then analyze them to avoid collisions and ensure safe arrival. Reactive and limited memory AI are currently the most common and widely available forms of AI.

- ✓ **Theory of Mind Artificial Intelligence:**

  This is a highly advanced form of AI that not only mimics the real world but also interacts with its individual components. It understands people, beings, and objects around it, realizing that each has emotions and feelings that influence behavior. This level of understanding is vital for developing societies, as it forms the basis of social relationships and interactions. Therefore, AI systems under this category can understand each person individually and adjust their behaviors accordingly.

- ✓ **Self-Aware Artificial Intelligence:**

  In this category, machines possess self-awareness and unique emotions, making them more intelligent than humans. This type does not yet exist in reality and is expected to be the next frontier in international competition. Professor Nick Bostrom of Oxford University defined it as: "a level of intelligence that surpasses the best human minds in every field—including scientific creativity, general wisdom, and social skills."

**3. Characteristics of Artificial Intelligence Applications:**

Artificial intelligence applications possess a set of characteristics that make them an effective investment across various fields, including the following:(Souad Boubaha, 2022, pp. 97-98)

- ✓ AI applications in devices and machines enable them to analyze problems.
- ✓ AI applications allow devices and machines to recognize voices and speech and to move objects.
- ✓ Some AI-enabled devices are capable of understanding inputs and analyzing them to deliver outputs that efficiently meet user needs.
- ✓ AI applications enable continuous learning, where the learning process is automatic and self-directed without supervision.
- ✓ They are capable of processing massive amounts of information.
- ✓ They can detect and analyze patterns in data more effectively than the human brain.

- ✓ They can find solutions to unfamiliar problems using their cognitive capabilities.

In addition to the above, other features and advantages can be noted, such as:

- ✓ Using intelligence to solve presented problems even in the absence of complete information.
- ✓ The ability to think and perceive.
- ✓ The ability to acquire and apply knowledge.
- ✓ The ability to learn and understand from past experiences.
- ✓ The ability to use previous experiences and apply them in new situations.
- ✓ The ability to use trial and error to explore different matters.
- ✓ The ability to respond quickly to new situations and circumstances.
- ✓ The ability to handle difficult and complex situations.
- ✓ The ability to deal with ambiguous situations where information is lacking.
- ✓ The ability to distinguish the relative importance of the elements of presented situations.
- ✓ The ability to imagine, be creative, and understand and perceive visual information.
- ✓ The ability to provide information to support managerial decision-making.

**4. Transition to Artificial Intelligence**

There is no doubt that artificial intelligence is one of the fundamental pillars of technological transformation in the modern era. To ensure the optimal utilization of its technologies and correct implementation, it is necessary to adhere to best practices in this field. The most prominent of these include: (Artificial Intelligence – The Artificial Intelligence Series for Executives, 2024)

- ➢ **Implementing Pilot Projects:**

  Focus on useful, uncomplicated, and applicable projects whose impact can be measured to demonstrate the effectiveness of artificial intelligence and build trust. Specialized expertise may be sought to achieve results within a period ranging from six (6) to twelve (12) months.

- ➢ **Building an Internal Team:**

  In the long term, it is essential to build an in-house team specialized in artificial intelligence, instead of relying on external sources. This helps in developing internal capabilities and creating a competitive advantage.

- ➢ **Training and Qualification:**

  Develop internal skills through intensive training and continuous qualification. Educational materials and specialized online training courses can be utilized for this purpose.

- ➢ **Developing an AI Strategy:**

After implementing several pilot projects, an artificial intelligence strategy should be developed to provide a clear vision and a deeper understanding of application priorities and use cases in both the short and long term.

- **Enhancing Internal and External Communication:**

Launch communication programs targeting all stakeholders inside and outside the organization, with the aim of clarifying the potential of AI technologies, how to benefit from them, and addressing the concerns that may arise around their use.

## 5. Advantages and Disadvantages of Artificial Intelligence

### First: Advantages of Artificial Intelligence

The use of artificial intelligence technology by companies and individuals offers numerous advantages and benefits in various forms. The most notable of these include:(Advantages and Benefits of Artificial Intelligence, n.d.)

- ✓ **Error-Free Processing:**

When tasks are performed by humans, errors are inevitable due to human nature. However, the use of AI-powered machines has increased the accuracy of these operations, making them nearly flawless. This accuracy depends on how well the machines are designed and programmed, ensuring reliable results.

Therefore, AI-driven devices have outperformed humans in terms of efficiency, as the algorithms used to build AI-based models rely on complex mathematical structures that enhance performance and reduce errors.

- ✓ **Helps with Repetitive Tasks:**

Humans often struggle with repetitive tasks, which can reduce their efficiency and productivity. AI technology addresses this issue, as machines do not require rest and can maintain high productivity levels over extended periods. As a result, manufacturers have adopted this technology to continuously produce goods and meet market demands.

- ✓ **Always Available:**

One of the key advantages of AI systems is their ability to operate continuously, providing services 24 hours a day—unlike humans, who typically work no more than 8 hours a day.

This feature ensures uninterrupted service delivery and meets user needs around the clock. An example of this is the use of chatbots in customer service applications across various sectors.

- ✓ **Rational Decision-Making:**

AI systems, when integrated into devices, are not influenced by emotions. This enables them to make logical and accurate decisions. These devices use cognitive computing to assist in making practical decisions in real time.

- ✓ **Digital Assistance:**

All AI-powered applications provide digital assistance, which organizations use to perform various automated tasks, thereby saving human resources.

Digital assistants also support individuals in their daily lives through AI-based applications like Google Maps, Grammarly, and Alexa. Additionally, they help doctors monitor patients in remote areas by providing valuable data about them.

- ✓ **Faster Decision-Making:**

  AI systems facilitate faster decision-making than humans by quickly reviewing all relevant aspects. As a result, companies gain a competitive edge by having sufficient time to make better decisions.

- ✓ **Use in Hazardous Situations:**

  In many cases, humans cannot undertake dangerous tasks, such as deep-sea exploration or handling hazardous materials. AI systems can be used effectively in such situations, allowing scientists to make discoveries with minimal risk to human life.

- ✓ **Emergence of New Innovations:**

  The use of AI has led to the development of numerous technologies that provide innovative solutions, such as early cancer detection, which has significantly benefited the healthcare sector.

- ✓ **Enhanced User Engagement:**

  One of AI's major strengths is its ability to enhance user engagement by analyzing massive amounts of user data and providing personalized experiences—such as recommending specific content or online shopping suggestions.

- ✓ **Scalability:**

  Companies that adopt AI systems gain the advantage of managing growing data volumes and user demands while maintaining accuracy and efficiency. This scalability is especially beneficial during growth phases.

**Second: Disadvantages of Artificial Intelligence**

There are several disadvantages associated with the use of artificial intelligence, including: (Abed Jameel Al-Sufyani, 2024, pp. 6-7)

- ✓ **Reduced Human Interaction:**While artificial intelligence may enable interaction with computers, it cannot replace the human relationship between teacher and students. Human interaction remains essential for social and emotional development.

- ✓ **Dependence on Technology:**The use of AI in education may lead students to become overly reliant on technology, which can reduce their social skills and problem-solving abilities—both of which are necessary for daily life.

- ✓ **Lack of Qualitative Assessment:**Although artificial intelligence is capable of evaluating quantitative aspects such as multiple-choice questions, it is limited in assessing qualitative elements like creativity, problem-solving, and critical thinking.

The researcher notes that artificial intelligence has many advantages—for example, it can retain information indefinitely unless the input data is modified. AI is also capable of analyzing large volumes of information in record time, designing new and updated websites, generating accurate model maps, and handling programming languages and algorithms with precision.

However, despite these advantages, AI has certain drawbacks. It relies on internet connectivity, so if problems occur with the internet, AI features may become non-functional. Additionally, software malfunctions can occur, requiring time to repair. Furthermore, some AI programs require payment to access their full features and capabilities.

## 6. Risks of Artificial Intelligence

As for the risks or threats that may arise from the negative use of certain artificial intelligence systems, this section will address three key areas that face significant threats from AI technologies, as emphasized by a number of experts in the field. These areas are: employment, national security, and autonomous weapons.(Al-Asad Saleh Al-Asad, 2023, pp. 171-173)

✓ **Employment:**

The growing use of artificial intelligence in many economic, social, and political sectors has led to a reduced reliance on human labor—especially as robots have acquired the ability to perform tasks that were once considered exclusive to humans.

According to the *Jobs of the Future 2040* report, many current jobs are expected to disappear with the advent of automation and the entry of robots into various domains. The report also noted, however, that over 157 million new job openings are expected by 2040. According to a study by the *McKinsey Global Institute*, more than 800 million employees around the world may lose their jobs, which represents one-fifth of the global workforce.

In this regard, a study published at the World Economic Forum in 2018 by researchers from *Oxford University* revealed that 1.4 million jobs in the United States are at risk due to new technologies by 2026, and that 47% of current jobs are threatened to become computer-based.

✓ **National Security:**

A 2017 study conducted by researchers from *Harvard Kennedy School*, titled *Artificial Intelligence and National Security*, concluded that "future advances in artificial intelligence are likely to become a transformative national security technology," comparable to nuclear weapons, airplanes, computers, and biotechnology.

In the final report of the *U.S. National Security Commission on Artificial Intelligence*, published at the beginning of 2021, it was stated that AI technologies exacerbate two ongoing national security challenges:

– **First:** Increased reliance on digital technologies in all aspects of life makes society more vulnerable to cyber intrusion—affecting every sector, from corporations and universities to governments, private organizations, and individual households. Simultaneously, the modern world is saturated with new sensors—in the *Internet of Things (IoT)*, cars, phones, homes, and social media platforms—that collect streams of data. These can be fed into AI systems, enabling them to identify, target, manipulate, or coerce individuals.

– **Second:** Adversaries—whether states or non-state actors—challenge the United States through cyberattacks and espionage instead of direct military confrontation. Moreover, these AI-enabled capabilities are likely to be used across the entire conflict spectrum—as tools of first resort in non-military confrontations, as precursors to military actions, or in coordination with military operations during war.

✓ **Autonomous Weapons:**

One of the most significant military applications of artificial intelligence is the development of *Autonomous Weapon Systems*, which are defined as: "any weapon system capable of independently

performing its essential functions, including the ability to search, detect, track, select, and engage targets without human intervention."

These systems—also referred to as *lethal autonomous robots* or *killer robots*—can search for, identify, and attack targets, including humans, without any human control.

**7 Algeria's Strategies in the Field of Artificial Intelligence**

The tools and means for implementing economic intelligence in Algeria rely on technologies adopted by certain providers of IT solutions. The broad application of economic intelligence cannot be achieved without the necessary media and communication infrastructure, such as purchasing high-cost equipment and software, which also requires financial support. Although Algeria is not currently listed in international rankings and indicators related to artificial intelligence, the country has already begun laying the foundations to move forward in this field.

According to an official source from the Ministry of Higher Education, Algeria has developed its national strategy for artificial intelligence, which includes, as part of an ambitious program, the establishment of a national university dedicated to training top-performing high school students to become engineers.

The same source adds that Algeria is counting first on this specialized university, and later on a technological hub, to establish a technology city that will serve as a foundation for an industry and economy based on artificial intelligence and advanced technology—ultimately aiming to eliminate its dependence on a hydrocarbon-based economy.

According to the official website of the National School of Artificial Intelligence (ENSIA), the school is presented as:"A center of excellence in higher education whose mission is to train engineers specialized in the theory and applications of artificial intelligence and data science."

In addition, Algeria established the Center for the Development of Advanced Technologies (CDTA) in 2003, by virtue of Executive Decree No. 457/03 dated 7 Shawwal 1424 AH (corresponding to December 1, 2003). The CDTA is a scientific and technological institution whose mission is to conduct scientific research, technological innovation, development, and training in various fields including science and information technology, industrial technologies, robotics, storage systems, materials processing, laser technologies, software engineering, artificial intelligence, and more.(Al-Asad Saleh Al-Asad, 2023, p. 174)

**Conclusion:**

Artificial intelligence is not merely a distant future; it is our present, marking a radical transformation in the financial services industry. With ongoing technological advancement, AI will continue to enhance the financial sector and drive greater growth and prosperity. By leveraging AI in the financial domain, decision-makers and financial experts in both the public and private sectors can benefit from its many advantages, such as improved decision-making capabilities, increased efficiency in financial operations, enhanced customer experience, and the fight against financial fraud.

Ensuring access to high-quality data remains the most challenging aspect of AI development. It requires a proactive approach to data collection, accessibility, and encouragement of its use in accordance with national data policies and regulations. In addition to strengthening data governance and quality controls, it is crucial to address existing data gaps and find innovative ways to overcome them—such as partnering with external data providers, utilizing indirect data sources, and developing synthetic data generated by algorithms, among others. Instilling a culture of data sharing and regulation is a key solution to maximizing data value and enabling AI applications in government services. Once data access issues are resolved, extensive efforts must be made to classify and organize data for use in AI models. These necessary steps underscore the importance of AI collaboration across various domains—such as sustainability—due to its shared impact on entities addressing these issues.

It is essential to keep pace with recent developments in AI technologies and adapt their use in performance analysis and financial planning. AI improves financial operations by enabling forecasting and reducing financial risks.

In conclusion, artificial intelligence plays a pivotal role in transforming the financial sector and improving the performance of financial activities. As technology evolves and the use of AI expands, its benefits and applications are expected to grow in the future, enabling further operational enhancements and more effective achievement of financial goals.

**Conflict of Interest Statement**

The author declares no conflicts of interest related to this work. The research and views expressed are solely those of the author and do not necessarily reflect the official positions of the Department of Social Sciences, University of Oum El Bouaghi, or any affiliated institutions.

**Acknowledgements**

The author would like to thank colleagues and students for their valuable feedback and support during the development of this work. Gratitude is also extended to the administrative staff of the Department of Social Sciences at the University of Oum El Bouaghi for their assistance in facilitating research activities.

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RESEARCH ARTICLE

# Violence Against Women: A Clinical Psychological Analysis of Its Psychological Dimensions and Effects on Personality

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**Doi Serial** https://doi.org/10.56334/sei/8.10.13

**Keywords** Violence Against Women, Clinical Psychological Analysis, Psychological Dimensions, Effects of Violence, Personality.

**Abstract**
This article addresses the impact of violence against women from the scope of clinical psychology, emphasizing the psychological dimensions of this phenomenon and its profound effects on women's psychological and personal health. Violence against women is a complex social and psychological issue presented in many forms such as physical, psychological, sexual, and economic violence, and leaves long-term negative impacts on women's mental health, such as depressive disorders, anxiety, and post-traumatic stress disorder (PTSD).

**Citation.** Sakhri A. Sider K. (2025). Violence Against Women: A Clinical Psychological Analysis of Its Psychological Dimensions and Effects on Personality. *Science, Education and Innovations in the Context of Modern Problems*, *8*(10), 121–131. https://doi.org/10.56352/sei/8.10.13
**Issue:** https://imcra-az.org/archive/384-science-education-and-innovations-in-the-context-of-modern-problems-issue-10-vol-8-2025.html

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Received: 10.04.2025 | Accepted: 15.06.2025 | Published: 01.08.2025 (available online)

## Introduction:

Violence against women is a complex social and psychological phenomenon that affects multiple aspects of women's lives, including their mental and physical health. Global statistics show that violence against women is one of the most prominent issues faced by societies, including physical, psychological, sexual, and economic violence. The growing awareness of the impact of this violence on women has made it a key focus of psychological and sociological research worldwide. From this perspective, studying violence against women from a clinical psychology standpoint plays a pivotal role in understanding how such traumatic experiences impact women's mental health and contribute to psychological and behavioral disorders that affect their personal and social lives.

This topic is particularly significant, given its major impact in modern societies. Violence against women is not only limited to legal and social issues, but also affects women's mental health, hence the need to shed light on the psychological dimensions of this phenomenon.

Accordingly, this article aims to provide an insightful psychological analysis on violence against women and its psychological effects on personality and other psychological functions, focusing on how to address these effects within the framework of clinical psychology.

## Problematic:

Violence against women is a global phenomenon that deeply impacts the lives of women in various societies, whether in developing or developed countries. Violence against women encompasses various aspects such as

physical, psychological, sexual, and economic violence, and has severe psychological effects on victims .As a complex issue with both social and psychological dimensions, its impact ranges from mental health deterioration to low self-esteem, hindrance of personal growth, and challenges in social interaction. In this context, it is important to study violence against women from a clinical psychology perspective, in order to better understand the resulting psychological effects and the therapeutic approaches needed to address them.

Women subjected to violence face significant psychological challenges such as Anxiety, Depression, Post-Traumatic Stress Disorder (PTSD), and eating disorders. The effects of violence on personality can lead to lower self-esteem, resulting in a negative perception of oneself and their social relationships with others. These psychological challenges can last for years, hindering women's ability to maintain healthy social interactions, thus deteriorating their overall quality of life.

violence against women can lead to long-term biological and psychological alterations in the brain, resulting in chronic memory and emotional impairment (Cohen & Collier, 2018). Multiple researches have shown that women who experience violence have difficulty restoring their self-confidence or establishing new relationships after stepping out of the cycle of violence (Walker, 2015).

Despite this psychological suffering, most women subjected to violence don't have the proper support to cope with these implications.

In this context, several questions require answers; How does violence against women affect mental health in the long term? What are the psychological mechanisms that contribute to explaining the effects of violence on personality? Do the psychological impacts of violence differ according to its type (physical, psychological, sexual)? What are the social and cultural factors that may aggravate these psychological impacts? How can clinical psychology contribute to providing the necessary psychological support and treatment for women who have been victims of violence?

These questions mark a starting point towards understanding the relationship between violence against women and mental health from a clinical psychology lens, and contribute to exploring psychological and practical solutions to help women recover from these profound traumas.

**Study objectives:**

Based on the questions raised in the study question regarding the impact of violence against women on mental health from the scope of clinical psychology, the following objectives are defined:

- **Analysis of the impact of violence against women on mental health:**

This study aims to explore the way violence against women affects their mental health over the short and long term, including the progression of psychological disorders such as depression, anxiety, and post-traumatic stress disorder (PTSD).

- **Studying the psychological mechanisms associated with the impacts of violence on personality:**

This study aims to understand the psychological mechanisms that explain the way violence affects personality development, by examining alterations in self-esteem, self-confidence, and negative thought patterns that may lead to lasting personality changes

- **Exploring the relationship between the type of violence and its psychological effects:**

The study aims to determine whether there are distinctions in the psychological effects of different types of violence (physical, psychological, sexual), and how women may react differently to each of these types of violence.

- **Analyzing the socio-cultural factors that influence the psychological effects of violence:**

This study highlights the role that social and cultural factors play in increasing the severity of the psychological effects of violence against women, such as socialization, economic levels, and societal attitudes towards women.

- **Achieve a deeper understanding of psychological treatment and support:**

The research showcases the way violence against women affects their response to psychological therapy, and examines the most effective clinical approaches for treating the psychological effects of violence. This includes studying the role of cognitive-behavioral therapy (CBT) and trauma therapy in enabling women to overcome their psychological suffering.

- **Establishing guidelines to improve psychological support for women subjected to violence:**

This study presents practical guidelines to improve the psychosocial support provided to women who have been affected by violence, in order to enhance their ability to recover and reintegrate into society.

All these objectives provide a thorough understanding of the effects of violence against women through the clinical psychology perspective, thus helping to develop effective strategies to limit this phenomenon and provide appropriate psychological therapy and support to the affected women.

**Terms definition:**

**Violence against women:**

Violence against women is defined as any violent act or threat that occurs within a private relationship or the community, encompassing multiple forms of physical, psychological, sexual, and economic violence. Violence against women is a complex social and psychological phenomenon that affects women all over the world, and may be committed by partners, family members, or even strangers. (World Health Organization [WHO], 2017)

**Clinical Psychoanalysis**

Clinical psychoanalysis is an approach that is based on evaluating individuals' behavioral and emotional symptoms by examining a person's past experiences, feelings, and psychological motives to provide an accurate diagnosis and effective treatment. Psychological analysis is used within the framework of violence against women to understand the depth of psychological impacts such as anxiety disorders, depression, and Post-Traumatic Stress Disorder (PTSD) as a result of violent experiences (Freud, 1920).

**Psychological dimensions:**

Psychological dimensions refer to the mental and emotional health aspects affecting an individual, including thinking, emotion, and behavior. Within the context of violence against women, psychological dimensions involve the effects that violent experiences have on women's psychological well-being such as feelings of anxiety, guilt, and fear, as well as the impacts of violence on self-esteem, social relationships, and the ability to engage with society (Campbell, 2002).

**Effects of violence:**

The effects of violence refer to the psychological and physical consequences resulting from an individual's exposure to violent experiences. For abused women, these effects include a range of psychological disorders that interfere with their ability to interact with others and function socially or professionally. Violence can lead to psychological disorders such as depression, anxiety, PTSD, and behavioral disorders. It is also accompanied by feelings of isolation and persistent fear for personal safety (Tolin & Foa, 2006).

**Personality:**

Personality refers to the set of psychological and behavioral traits that distinguish an individual and shape the way they interact with others and the surrounding world. Violent incidents, for instance, may lead to low self-esteem, excessive feelings of fear and anxiety, and social withdrawal. These effects can alter patterns of thinking and behavior, affecting a woman's ability to cope with her daily life (Briere, 1992).

**The conceptual framework:**

## 1- Types of violence against women:

Violence against women is a global issue that greatly impacts women around the world, and it manifests itself in various forms that can leave devastating psychological and physical impacts. There are various types of violence to which women are exposed, and each type has specific impacts on their psychological and physical health. Here are the main types of violence against women:

- **Physical violence:**

Physical abuse is the most obvious form of violence and includes hitting, kicking, strangling, and physical assault with sharp or harmful objects. This type of violence may result in visible physical injuries such as bruises and cuts, and may lead to permanent physical disability. According to the World Health Organization (2017), women who experience physical violence are more likely to develop chronic health issues such as headaches, back pain, and movement disorders.

- **Psychological violence:**

Psychological or emotional abuse includes acts intended to undermine a woman's self-esteem, such as insults, threats, constant shaming, ignoring, and demeaning. This type of violence also includes psychological and emotional manipulation that puts the woman in a constant state of fear and self-doubt. As a result, psychological violence can lead to a significant decline in mental health, including increased levels of anxiety and depression (Cohen & Collier, 2018).

- **Sexual violence:**

Sexual violence involves sexual assaults such as rape, sexual harassment, and sexual abuse. This violence often occurs within a marital or family relationship, where the victim is forced to engage in sexual activities without their consent. Sexual violence has devastating psychological effects that result in post-traumatic stress disorder (PTSD) and psychiatric disorders such as depression and anxiety (Beck, 2016).

- **Economic violence:**

Economic violence refers to the control of a woman's financial resources, such as preventing her from working, controlling her salary, or restricting her access to money. This type of violence limits a woman's economic autonomy, reinforcing her dependence on her abusers. Such violence leads to feelings of helplessness and loss of control, which aggravates women's psychological state and makes them more vulnerable to repeated violence.

- **Social violence:**

Social violence involves actions that aim to exclude women from society or minimise their ability to interact with others. This includes controlling her social relationships and preventing her from communicating with family or friends. This type of violence can make women withdraw from their social support network, increase their psychological suffering and trap them in a cycle of silence and constant psychological stress.

- **Cyber violence:**

With the rise of technology and social media, digital violence has become a growing and increasingly harmful form of abuse against women. It includes online threats, harassment, and defamation, such as posting private photos or information intended to harm, intimidate, or violate a woman's privacy. This type of violence can have serious psychological consequences, often leaving victims in a constant state of fear, anxiety, and vulnerability to online abuse and public humiliation (World Health Organization, 2018).

## 2- Psychological Effects of Violence Against Women:

The psychological impacts of violence against women include a wide range of mental and emotional disorders that significantly affect their daily lives. These effects influence women's self-perception, social behaviors, and

interpersonal relationships. The consequences may be short-term or extend to cause long-term mental health issues. Women's response to violence varies according to the type of violence they have experienced, its environment, and the extent of social support provided to them. Here are the main psychological effects of violence against women:

- **Post-Traumatic Stress Disorder (PTSD):**

PTSD is one of the most prominent psychological effects that women face after experiencing violence, especially sexual and physical abuse. Many women who have been exposed to violence experience a state of constant panic and fear, and find difficulty overcoming the traumatic experiences. (Said, 2017). Abused women experience intense flashbacks, nightmares, social withdrawal, and tend to avoid places or people that trigger memories of the undergone violence. They also suffer from high rates of PTSD, which affects their quality of life and reduces their ability to socialize (Al Jassim, 2018).

- **Depression:**

Depression is a key psychological consequence of violence against women. Women who experience physical or psychological abuse are more likely to suffer from depression, manifesting through persistent sadness, loss of interest in daily activities, and loss of hope in life (Hassan, 2019). Depression caused by violence leads to poor quality of life and worsen social and family issues. Al-Najjar's (2020) study revealed that more than 60% of women who have experienced violence have a background of severe depression, which hinders their chances of obtaining appropriate psychological support.

- **Anxiety:**

Anxiety is a persistent feeling of fear or stress resulting from abuse. abused women experience higher levels of anxiety, which interferes with their ability to interact with others or manage their daily lives. In several cases, violence results in developing chronic anxiety disorders, such as social anxiety or generalized anxiety, which affect mental health and social relationships (Saleh, 2018). Al-Faraj's (2021) study shows that women exposed to violence experience a persistent state of fear or stress as a result of their experiences, which affects their ability to interact with others or manage their day-to-day lives.

- **Social Isolation:**

Social isolation is another psychological effect of violence against women. Many survivors withdraw from social relationships due to feelings of shame or embarrassment. Both psychological and physical abuse can damage a woman's social support network, leaving her in a state of isolation worsening her psychological suffering (Al-Otaibi, 2020). Therefore, social isolation can lead to feelings of loneliness and depression, further intensifying the emotional harm experienced by women.

- **Low self-esteem:**

Abused women often suffer from low self-esteem believing that do not deserve a better life and that they are of no value in society, which triggers feelings of guilt and helplessness. According to Al-Jassem (2018), psychological and physical abuse significantly damages a woman's self-image, which impacts her daily life and ability to make important personal decisions. This psychological state increases their vulnerability to further violence or other psychological issues.

- **Psychological and emotional stress:**

Abused women are exposed to constant psychological and emotional stress, worsening their ability to cope with their emotions. This stress affects their ability to perform daily tasks, both at home and in the workplace, and may result in romantic or family relationship issues. According to the study of Al-Said (2019), long-term exposure to violence depletes women's ability to cope with life challenges thus, worsening their psychological well-being.

**3- Impact of violence on personality:**

Violence against women is considered a key factor in shaping their personality. Violence leaves a deep impact regarding women's psychological and emotional development which influences the way they perceive themselves and others. The impact of violence often alters their self-image and diminishes their confidence in building healthy social relationships.

This impact is not limited to a single aspect of personality but extends to several psychological and emotional life dimensions. Below are some of the key personality changes that may result from a woman's exposure to violence:

- **Low self-esteem:**

Low self-esteem is one of the most significant psychological impacts on personality after experiencing violence. Physically or emotionally abused women tend to lose their confidence in themselves and their abilities. Women constantly exposed to violence often perceive themselves as weak or unworthy of love or respect, leading to feelings of unworthiness and helplessness (Ibrahim,2018). This low self-esteem is reflected through women's personal and professional lives, and might expose them to more violence or toxic relationships.

- **Feeling helpless:**

Helplessness in the face of life's challenges is one of the major psychological impacts that effect personality. Violence fosters a feeling of weakness and apathy, making women feel unable to change or improve their situations. This feeling of helplessness hinders personal growth and limits women's ability to make effective life decisions. According to the study of (Al-Said, 2019), women who have experienced violence often show a reduced ability to cope with psychological stress, which in turn weakens their independence in decision-making.

- **Dependency:**

Constant exposure to violence often leads to psychological and emotional dependence on the abuser. Abused women may become psychologically dependent on the abuser when making daily decisions and sense of security. This constant dependency can erode personal autonomy and deepen women's attachment to the abusive relationship, negatively influencing their personality. According to the study of Al-Jassem (2018), women who have experienced violence in marital relationships are often excessively dependent on their abusive partners, which undermines their sense of independence.

- **Guilt and shame:**

Abused women often live with feelings of guilt and shame, thinking that the abuse they experience is a result of their own actions and choices, leading to a deterioration in personality. Women blame themselves for the traumatic situations they have experienced, which negatively reflects on their self-perception and relationships with others. Guilt intensifies women's emotional suffering and reduces their ability to seek help or engage with their community in a healthy way (Heise, 1998).

- **Personality disorders:**

Constant exposure to violence often leads to personality disorders in some women. For instance, some of them suffer from disorders such as Dependent Personality Disorder manifesting in difficulty making decisions and a constant need for others to maintain emotional stability (Said, 2017). In other cases, Borderline Personality Disorder may emerge, characterized by intense emotional fluctuations and unstable behaviors, often rooted in traumatic experiences related to abuse.

- **Lack of trust in others (trust issues):**

Exposure to violence can lead to a lack of trust in others, whether family, friends, or society in general. Victims of violence often develop a sense of suspicion and doubt about people's intentions, affecting their ability to build healthy and stable relationships in the future. Constantly abused women are often less likely to trust others, adding to their feeling of social isolation (Walker,2015).

- **Isolation and Introversion:**

Violence often fosters isolation and introversion in women. Abused women often tend to avoid any social interactions due to their fear of being triggered or feeling ashamed of their situation. Introversion enhances loneliness and social isolation, leading to increased anxiety and depression. According to Al-Faradj (2021), women exposed to violence are more likely to develop psychological disorders due to the lack of social support.

## 4- Psychological Theories Explaining Violence Against Women:

Several psychological theories have been developed to explain violence against women and to understand the underlying psychological factors that may drive both men and women to engage in such behavior. These theories are fundamental in understanding the psychological dynamics behind violence against women. These theories have contributed to developing therapeutic strategies to reduce violence and promote behavioral change. In this context, the main psychological approaches to understanding violence against women can be categorized into several main schools of thought, including:

- **Freudian Psychoanalysis:**

Founded by Sigmund Freud, psychoanalytic theory was one of the first theories to attempt to explain violence against women by shedding light on the unconscious psychological factors that may drive an individual to commit acts of violence. Violence against women, in a domestic context, might stem from early disturbances within familial relationships, such as traumatic experiences with parents. According to this theory, men may resort to violence to cope with repressed anger or vulnerability toward maternal figures in their lives, thus affecting their relationships later on (Brown, 2011).

- **Social Learning Theory - Bandura:**

According to Albert Bandura, aggressive and violent behaviors are learned by observing and imitating the behaviors of others, especially when positive consequences or rewards accompany them. In this regard, violence against women can be interpreted as an acquired behavior that is learned through observation and repetition. Men who have been raised in environments where women were abused tend to subconsciously pick up this behavior, thus becoming a part of how they treat women as adults (Bandura, 1973). For instance, men may assume that violence against women is an effective way to control women or to cope with feelings of anger and psychological distress.

- **Learned Helplessness Theory:**

This theory, developed by Martin Seligman (1975), suggests that individuals subjected to persistent violence may develop a psychological state of helplessness, in which they believe they are incapable of changing or controlling their environment. In the matter of abused women, prolonged exposure to violence can lead to emotional numbness, as women believe that it is impossible for them to escape or change their situation. this state of learned helplessness worsens the cycle of abuse, as the chances of resisting or seeking ways to escape are low (Seligman, 1975). Thus, violence against women is perceived as a result of accumulated psychological trauma pushing women to submit to their current circumstances.

- **Behavioral Theory:**

this theory focuses on the way praise and punishment shape the individual's behavior. Violence against women can be interpreted as a behavior fostered either positively or negatively. In some cases, the abuser may get positive feedback when violence leads to desired outcomes, such as gaining control over women or asserting power.

Violence, in other cases, can be implicitly praised in the absence of punishment, namely an unpunished abuser, or a woman who doesn't reject abuse, resulting in the persistence of violence (Skinner,1953). Such behavior, learned through past experiences or social situations, becomes more likely to be repeated over time.

- **Psychopathology Theory:**

This theory focuses on personalities that may be characterized by psychological disorders contributing to violence. According to this theory, psychological disorders affecting the perpetrator may be the cause of violence against women, such as a narcissistic personality disorder or antisocial personality disorder. People suffering from these disorders might lack empathy, leading them to use violence as a tool to control others. On the other hand, violence can be a result of unresolved emotions such as deep-seated anger or psychological distress, thus expanding our understanding of violence as a manifestation of the abuser's mental instability who, owing to their psychological state, may not be able to control their aggressive behaviors (Kuehn,2014).

- **Attachment Theory:**

According to Bowlby, emotional attachment patterns formed in childhood influence the behavior of the individual in adulthood. If a person is raised in an environment marked by neglect or emotional abuse, there is a possibility to develop insecure attachment patterns, which can increase the possibility of repeating violence patterns in later relationships. In violence against women, the abuser may exhibit aggressive behaviors as a result of insecure attachment and an inability to deal with feelings of anxiety or anger (Bowlby,1969). Abused women may also be victims of insecure attachment impacts thus, compromising their ability to respond effectively or make independent decisions.

**5- Long-term impact on mental health:**

Violence against women can not only lead to immediate psychological impacts, but can also lead to long-term mental health issues that affect their daily lives and lead to a gradual deterioration of their overall quality of life. These impacts can persist for decades, affecting their ability to build healthy relationships or succeed in their professional lives.

- **Mood Disorders:**

Long-term violence against women is often related to higher rates of depression and mood disorders. Depression is one of the most common psychological symptoms among abused women. The constant violent environment affects women's emotions fostering sadness and hopelessness. Women subjected to violence usually feel anxious and frustrated, which can manifest as a loss of interest in the things they used to enjoy, leading to a significant decrease in their quality of life (Coker et al., 2002).

A study of (Tolin & Foa, 2006) has shown that women who have experienced domestic abuse suffer greatly from mood disorders including severe depression.

- **Post-Traumatic Stress Disorder (PTSD):**

PTSD is one of the long-term impacts of violence against women. This condition arises when women experience persistent traumatic violence, resulting in nightmares, intrusive memories of the attacks and constant sense of threat. According to (Herman,1992) study, the result proved that women who have been subjected to domestic abuse probably suffer from PTSD exhibiting symptoms such as confusion, hypervigilance and sleeping difficulties. If left untreated, this disorder can carry on for an extended period, severely impacting women's mental health and well-being.

- **Deterioration of Social Relationship:**

Violence against women can lead to a decline in the quality of their social relationships. Abused women tend to isolate themselves, which worsens their psychological suffering. Violence has a significant influence on the way women interact with others, both in the workplace and society, resulting in withdrawal from social activities. Such isolation might increase feelings of loneliness and reduce their chances of receiving necessary psychological and social support (Coker et al., 2002). Family relationships also become distorted, and women may struggle to establish healthy emotional connections in the future due to the trauma of past violence exposure.

- **Emotional Dependency:**

Violence against women can lead to a state of chronic emotional dependency, where the victim is unable of leaving the abusive relationship despite the harm she endures. She may feel emotionally attached to abuser and even develop a fear of abandonment or an inability to live independently.

According to a study by Walker (2015), women subjected to prolonged violence sometimes feel that they are unable to leave the relationship due to their fear of loneliness or helplessness which eventually worsens their psychological suffering.

- **Substance Abuse:**

Owing to the significant psychological stress experienced by abused women, some of them may turn to drugs or alcohol as a coping mechanism for their psychological pain caused by violence. Abused women face more serious problems with substance or alcohol while attempting to escape depression, anxiety and trauma (Miller & Van Der Merwe, 2017). Hence why substance abuse may become a chronic condition if not effectively treated.

- **Eating Disorders:**

Violence against women and eating disorders such as anorexia or bulimia are highly connected as abused women struggle to cope with anger or stress which can lead them to try and gain control over their lives through food. According to (Tse et al., 2019), abused women show extreme eating behaviors as a way to relieve the psychological stress associated with violence.

- **Long-term psychological impacts on children:**

The psychological impacts of violence against women are not only limited to women but extends to their children. Children who witness domestic violence may suffer from stress, depression and sleeping disturbances, and are more likely to develop aggressive behaviors later in life. According to (Margolin & Gordis, 2000), children raised in violent environments are at high risk of becoming future victims or abusers.

## Conclusion:

In conclusion, violence against women is considered as one of the most complex social and psychological issues facing modern societies. Its impacts not only do they attain physical dimensions, but they expand to the psychological impacts that are more damaging and last for longer periods of time after the abuse has ended. Studies have shown that women subjected to violence often suffer from psychological disorders such as Depression, Anxiety, and Post-Traumatic Stress Disorder (PTSD), in addition to social isolation and lack of psychological support, that hinders their ability to fully heal.

It is essential for society as a whole to proceed with raising community awareness regarding violence against women and to provide appropriate psychological support to affected women. Clinical psychologists play a key role in providing psychotherapy and support to overcome the long-term psychological impacts of violence.

Addressing violence against women requires comprehensive strategies encompassing violence prevention, emotional and social support, as well as psychotherapy to help minimize the negative effects on women's mental health. In this regard, it is crucial to develop effective programs that provide holistic support to abused women, whether through therapy or social counseling, to ensure their ability to establish a stable and violence-free life. The persistence of violence against women within the absence of adequate support reflects, in fact, a lack of awareness and intervention strategies. This showcases the urgent need for collective efforts to fight this phenomenon and to promote women's rights and well-being in society.

## Recommendations:

Based on the previously discussed psychological effects of violence against women its long-term impacts, a set of recommendations can be suggested in order to reduce this phenomenon and provide support for affected women. This includes the preventive and therapeutic aspects, and targets the whole society as well as those involved in social and psychological support.

- **Enhancing community awareness about violence against women:**

It is essential to work on raising awareness regarding the dimensions of violence against women, especially its psychological impact. It is also crucial for media, educational institutions and society to intensify efforts to raise awareness about domestic violence, identify its various forms, and highlight its negative consequences. Individuals should be sensitized on how they can recognize signs of violence and how to provide support to affected women.

- **Providing psychological support to abused women:**

It is necessary to provide therapeutic and psychological support specifically for women who have experienced violence, focusing on offering consistent emotional and social support. These programs should include psychological therapy sessions, and group and individual counseling, as well as providing specialized teams of qualified mental health counselors to be able to deal with abused women.

- **Providing shelter and refuges for abused women:**

It is necessary to establish shelters for abused women who may be at risk from their abusers. These shelters should provide protection, medical care, psychological and social support, as well as empowering women to regain their financial and social independence.

- **Training professionals to work with victims of violence:**

It is essential to provide training programs for professionals in the fields of psychiatry, clinical psychology, and social work in order to enable them to effectively and professionally deal with victims of violence. This training should include ways to provide psychological support, address the impacts of violence on mental health, and assist women to overcome their feelings of guilt and fear.

- **Strengthening legislation and policies to fight violence against women:**

Governments are called to improve laws related to violence against women and ensure the execution of legislations that protect women from abuse. It is essential to enhance legal procedures to grant women swift access to justice and provide legal protection for victims of violence.

- **Engaging the local community in violence prevention efforts:**

Local communities, including religious and social leaders, should be encouraged to take an active role in preventing violence against women. Community education can be of major help in altering behavioral patterns and reducing societal tolerance towards domestic violence.

- **Encouraging scientific research on violence against women:**

It is essential to support and promote scientific research and studies that focalizes on better understanding the psychological impacts of violence against women, including its long-term effects on mental health. These studies can provide significant insights for developing effective programs to treat victims of violence.

- **Strengthening the role of media in addressing violence against women:**

Media can be used as an effective tool in fighting violence against women by highlighting issues related to domestic violence, and encouraging society to take a firm stand against this phenomenon. Media must showcase positive cases of women who have overcome abuse, and shed light on the available support resources.

- **Shifting toward preventing violence before it occurs:**

It is crucial to implement preventive programs that mitigate the factors leading to violence against women. These programs should include premarital education, educating children and youth on healthy relationships, the importance of mutual respect, as well as non-violent way to deal with negative emotions.

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RESEARCH ARTICLE

# Assessment of anthropogenic degradation processes in mountain-forest brown soils in ajinohur low mountainous; (Ganikh-Turyanchay break)

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**Doi Serial** https://doi.org/10.56334/sei/8.10.17

**Keywords** soil, mountain-forest brown, anthropogenic, degradation, grazing, mechanical components.

**Abstract**

Mountain-forest brown soils widespread in research area play an important role in the agriculture of the country. As a result of unsystematic use of the lands in dry conditions,they have been exposed to various degradation processes. Changing of morphogenetic and phsyco-chemical properties in half types of mountain-forest brown soils spread over low mountainous Ajinohur as a resilt of economic activity of people has been studied in the article. In addition, a picture, reflecting the degradation in the area as a result of the usage of it over the years, results of soil analysis are shown.

**Citation.** Ahmadova L. (2025). Assessment of anthropogenic degradation processes in mountain- forest brown soils in ajinohur low mountainous (Ganikh-Turyanchay break). *Science, Education and Innovations in the Context of Modern Problems*, 8(10), 164–169. https://doi.org/10.56352/sei/8.10.17

**Issue**: https://imcra-az.org/archive/383-science-education-and-innovations-in-the-context-of-modern-problems-issue-9-vol-8-2025.html

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Received: 14.04.2025 | Accepted: 10.07.2025 | Published: 05.08.2025 (available online)

## Introduction.

Mountain-forest brown soils, commonly found in the Ajinohur low mountainous zone—particularly in the Ganikh-Turyanchay break—constitute an essential component of the region's agricultural productivity and ecological balance. These soils, formed under specific climatic and topographical conditions, are crucial for sustaining vegetation cover and maintaining biodiversity in the area. However, increasing anthropogenic pressures, such as unsustainable agricultural practices, excessive grazing, and deforestation, have led to severe degradation of these soils.

In recent decades, the mismanagement of land resources under semi-arid conditions has accelerated erosion, depletion of organic matter, and changes in the morphogenetic and physicochemical properties of the soils. The transformation of mountain-forest brown soils due to human activity poses significant threats to both soil fertility and environmental sustainability. This study aims to assess the extent of anthropogenic degradation processes affecting these soils in the Ajinohur low mountainous area. It focuses on analyzing the morphogenetic characteristics and physical-chemical alterations brought about by long-term human exploitation. Additionally, the study provides visual documentation and empirical data derived from soil sample analyses, offering a comprehensive view of the degradation trends and their implications for land use planning and soil conservation efforts.

Mountain-forest brown soils within the country, many scientists have carried out research work. In brown soils of arid sparse forests in the foothills of the Greater Caucasus researh work by G.A.Salamov (1978), S.H.Khalilov (1977), M.Y.Khalilov (1963), N.N.Ismayilov (1977), G.R.Allahverdizadeh (1988) and by others was carried out.

Natural degradation processes alongside with the anthropogenic degradation processes are accelerating rapidly in our republic as it is in the world. The area's geographical location also affects to the directions of degradation (Quliyev İ.Ə. 2010).

The research results have shown that the amount of soil nutrients have deteriorated as a result of many years of economic activity.

Study area. The research area covers the low mountainous areas in the north-western part of the Azerbaijan Republic.The area stretches along Ganikh-Ayrichay valley in the north, Khojashen Mountains in the south, the Republic of Georgia in the west and the southern foothills of the Greater Caucasus in the east. Absolute height is between 100-200 m and 700-800 m. Research area is cut off by the Ganikh, the Ayrichay, the Alijanchay, the Turyanchay and their branches (M.A.Museyibov 1998).

Subtypes of mountain-forest brown soils in research area: 1.Typical mountain-forest brown, 2.Carbonated mountain-forest brown 3. Greyish mountain-forest brown (Алиев Г.А. 1961) (Babayev, M.P.,etc. 2011).

Typical mountain-forest brown soils are spread under the oak forests in the north and north-west of the left sides of Alijanchay and Turyanchay, in the intersection zone of Ganikhchay and Ayrichay, on the left slopes of Ganikhchay, under the juniper-gum forests on the north-western slopes of low mountainous Ajinohur. The height of juniper, gum trees is up to 5-6 meters, their age is up to 300-400 years. The soils are formed on the clayey carbonated rocks. Depending on the addiction of slopes and the degree of their plant coverage, these rocks came onto the surface on some slopes. Depending on the addiction degree of slopes and their direction ,there are differences in thickness and parameters of soils.

Carbonated mountain-forest brown soils are widespread in different slopes of the area. In the upper border, the soils are humid and shady, in the north-western slopes are typical mountain-forest brown, in lower border the soils are in various types of grey-brown (chestnut) soils.

Greyish mountain-forest brown soils are spread in low mountainous zone of the basins of Ganikhchay, Alijanchay and Turyanchay rivers.

Metods and data. 3.1. To define the signs of morphogenetic fields and their change in soil types and subtypes in research area, the method of sample area was used. Land survey of the area, slope inclination, vegetation and its rate of coverage, erosion and many other factors were taken into account during research work. During research soil samples on genetic layers were taken and morphological study was carried out.

We give a morphological structure of a soil profile in typical mountain-forest brown soils below. Profile was put 552 m above sea level, in the north-western slope on the right bank of Turyanchay, in 2014. Inclination of the slope is 22-250, and it is covered with sparse oak and gum trees.

Hor. “A0” 1-2 cm smashed and half smashed oak leaves and roots.

Hor. "A1" 2-15 cm is light brown, greyish, small lumpy, medium clayey, there are a lot of grass- roots, low carbonate tracy, less humid, relatively dry, transition graduality, doesn't boil.

Hor. "A2" 15-32 cm, light brown, medium clayey, lumpy,weak nut-shaped, soft, small carbonates, alongside with the small roots the tree roots there are tree roots, weak humid, transition graduality, slow boiling.

Hor. "B" 32-58 cm, light brown, medium clayey, lumpy- weak nut-shaped, light soft, small carbonates, sparse tree roots, sparse stones, humid, transition is clear, low boiling.

Hor. "BC" 58-83 cm yellowish, straw in color, medium clayey, weak layered structure, soft, small carbonates increase, the sparse smashed roots and rootlets, dry, transition graduality, severe boiling.

Hor. "C" 83-135 cm is straw in color, medium clayey, layered, and is not seen well, white small carbonates, smashed and not smashed tree roots, dry, transition graduality, rapidly boiling.

As it seen in the image, the morphological structure of the upper floors is lumpy and gradually changes into nut-shaped structure. Mechanical construction is poor and medium clayey. Carbonating increases towards the lower layers of.

Soil profiles have been put during research work to determine the causes and the degree of land degradation in either natural areas or in the areas used in the economic activity by people for many years. Also, is being taken into acount the inclination of the slope, their direction, degree of anthropogenic influence, some physico-chemical properties, changes happened in genetic layers have been studied (i.Ə.Quliyev 2013).

3.2.Laboratory analyses- Soil samples from the areas defined for labaratory analysis have been brought and different analysis have been carried out. Accordingly phsico-chemical composition of typical mountain-forest brown, cabonated mountain-forest brown, greyish mountain-forest brown soil types are given in the table below.

Table.

| Depth with sm | Humus with % | Nitrogen with % | pH (in the water solution) | Higroscopik water with % | Fractions with mm | | | CaCO3 (with % according to CO2) |
|---|---|---|---|---|---|---|---|---|
| | | | | | 0,005-0,001 | <0,001 | <0,01 | |
| Profile 22 | | | | | | | | |
| 0-2 | | | | | | | | |
| 2-15 | 6,1 | 0,50 | 7,7 | 11,16 | 22,52 | 33,48 | 69,12 | Yox |
| 15-32 | 3,1 | 0,36 | 7,3 | 7,06 | 19,84 | 37,56 | 67,49 | 17,02 |
| 32-58 | 1,0 | 0,42 | 7,1 | 5,74 | 18,88 | 45,24 | 66,68 | 19,05 |
| 58-83 | 0,9 | 0,147 | 8,3 | 4,48 | 26,92 | 34,00 | 73,32 | 25,70 |
| 83-135 | 0,1 | - | 8,5 | 6,02 | 24,68 | 28,36 | 68,36 | 26,103 |
| Profile 20 | | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0-2 | | | | | | | | |
| 2-20 | 5,22 | 0,41 | 7,8 | 4,05 | 9,16 | 18,53 | 36,84 | 10,29 |
| 20-35 | 3,51 | 0,29 | 8,2 | 3,64 | 19,42 | 24,04 | 63,62 | 15,44 |
| 35-57 | 2,90 | 0,21 | 7,8 | 4,24 | 29,33 | 24,04 | 62,27 | 13,38 |
| 57-82 | 1,86 | - | 8,5 | 3,46 | 16,58 | 25,4 | 60,06 | 13,38 |
| 82-110 | 1,06 | - | 8,2 | 3,40 | 15,02 | 24,9 | 54,94 | 0,10 |
| Profile 28 | | | | | | | | |
| 0-13 | 3,56 | 0,20 | 7,8 | 6,20 | 24,86 | 32,08 | 65,24 | 12,35 |
| 13-29 | 3,01 | 0,17 | 7,9 | 6,35 | 15,94 | 35,8 | 67,36 | 15,44 |
| 29-48 | 1,88 | 0,11 | 7,9 | 7,25 | 10,18 | 32,74 | 63,58 | 25,74 |
| 48-72 | 1,30 | - | 8,0 | 7,13 | 26,4 | 37,42 | 71,4 | 36,03 |
| 72-105 | 1,09 | - | 8,1 | 5,95 | 29,15 | 39,94 | 70,89 | 36,0 |

Results. In mountain-brown forest soil area, the plantation forest areas where relief is most appropriate were cut down and were used for cultivation and under the circumstances of soil caused major changes. As a result of misguided economy, thinning of trees, and sometimes disappearing, erosion processes have increased and soil water storage capacity has violated. Drought climate and man's economic activity have caused into greyish. As a result of it, forest plants substituted for grasses

(Regional geographical problems of the Republic of Azerbaijan - Sheki and Gakh regions, Sheki Regional Scientific Center)

Not only man's economic activity, but also drought climate has impacted on the typical mountain-forest brown soil degradation. Deterioration of soil physical parameters weakens the oxygen process between layers and accelerates the washing of surface layers. As a result of man's economic activity impact,the amount of nutrients and humus has decreased, but carbonate is increasing dramatically throughout the display compared to previous years.

Carbonated mountain-forest brown soils. Compared to previous years, in recent years the amount of nutrients was not completely lost. The amount of silt and physical clay fractions increases gradually down to the lower layers along the soil profile. As a result of landslide and washing, clayey rocks came onto the surface in the areas where inclination is big.

As a result of unsystematic economic activity of soils by people, the amount of nutrients diminished compared to previous years, hillside trails were formed as a result of unsystematic grazing, almost the upper layer was destroyed and thick humus layer hardened. Within a year, annual rainfall can restore only 10-15 % of vegetation.

Picture. Soil degradation as a result of unsystematic grazing in the Dashuz Range.

**Acknowledgement**

The author expresses sincere gratitude to the Institute of Geography of the Azerbaijan National Academy of Sciences for their academic and technical support during the course of this study. Special thanks are extended to the field research team and laboratory staff for their invaluable assistance in sample collection, analysis, and data processing. The author also appreciates the local authorities and community members of the Ajinohur low mountainous region for their cooperation throughout the field investigations.

**Conflict of Interest**

The author declares that there is no conflict of interest regarding the publication of this article. No financial or personal relationships have influenced the research outcomes.

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RESEARCH ARTICLE

# Comparative scientific analysis of the concept of modern technology in education and practice; in the context of international educational research

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**Doi Serial** https://doi.org/10.56334/sei/8.10.20

**Keywords** I modern educational technologies, development of teachers' professional competence, using of educational technologies

**Abstract**

The topic "Modern educational technologies" is intended for pedagogical workers of educational institutions. The presented material may be useful to teachers for the rational organization of the educational process using modern educational technologies. The "Modern Educational Technologies" distance learning unit is designed for 6 hours and includes the study of the following questions: "The concept of"pedagogical technology", the prerequisites of its emergence of the term", "Classification of technologies", "Structure of pedagogical technology", "Features of pedagogical technology and technological processes". The structure of the block consists of a theoretical material that reflects the nature and features of the technological approach to learning, the characteristics of individual technologies, as well as questions for self-control and the final test on the material under consideration. The block of distance learning "Modern educational technologies" contains glossary and a list of references. The student, while studying the topic of "Modern educational technologies", will receive not only theoretical knowledge, but also master practical skills aimed at the effective organization of the educational process using modern educational technologies.

**Citation.** Soroka, O.G. (2025). Comparative scientific analysis of the concept of modern technology in education and practice; in the context of international educational research. *Science, Education and Innovations in the Context of Modern Problems*, 8(10), 194–216. https://doi.org/10.56352/sei/8.10.20
**Issue**: https://imcra-az.org/archive/383-science-education-and-innovations-in-the-context-of-modern-problems-issue-9-vol-8-2025.html

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Received: 10.04.2025 | Accepted: 22.06.2025 | Published: 01.08.2025 (available online)

## Introduction

*The concept of "educational technology" prerequisites occurrence of the term*

In order for knowledge to become a control factor, it must itself be organized, structured and organized in a known manner. It is thanks to the special didactic processing of scientific knowledge related to its transformation into the form of educational information; the latter becomes a management factor. Next, we consider this process on the example of modern educational technologies.

The choice of one or another learning technology is determined, first of all, by the specifics of the content of the subject and the method of its construction. Any restructuring in the structure of the academic subject entails changes in the methods of teaching and learning.

It becomes obvious that the process of accumulation and the empirical (based on practice) selection of training systems should be combined with the selection of the goal and the development of a control system for the learning process. This is facilitated by the technologization of the learning process.

For the first time in the 20s, the term "pedagogical technology" is mentioned in works on pedagogy based on reflexology works (I.P. Pavlov, V.M. Bekhterev, S.T. Shatsky). At the same time, another concept spread - "pedagogical technology", which in the Pedagogical Encyclopedia of the 30s was presented as a combination of techniques and tools aimed at a clear and effective organization of training sessions. The pedagogical technology also included the ability to operate with educational and laboratory equipment, to use visual aids.

In the 40-50s, when the introduction of technical means into the educational process began, the term "technology of education" appeared. In the following years, under the influence of work on the method of applying various TSS, in particular, cinema, radio, controls, was modified in "pedagogical technology".

*In the mid-60s.* The content of this concept has been widely discussed in the pedagogical press abroad and at international conferences, where two directions of its interpretation were determined depending on the level and results of research in this field in various countries (USA, Japan, France, Italy). Proponents of the first claimed the need for the use of technical tools and tools for programmed training. Representatives of the second direction were seen as the main thing in improving the organization of the educational process.

By the beginning of the 70s, the need to modernize various types of training equipment and subject teaching aids was recognized as a necessary condition, without which progressive methods and forms of training would not work.

*Thus, by the end of the 70s - the beginning of the 80s.* Due to the development of technology and the computerization of the concepts that have begun abroad, the concepts of "learning technology" and "pedagogical technology" have increasingly become recognized as a system of means, methods of organizing and managing the educational process. At the same time, two sides of pedagogical technology were identified: the use of system knowledge for solving practical problems and the use of technical devices in the educational process.

The modern definition of the term reflects various approaches to its study: personality-oriented, activity, sociological, etc. T.A. Stefanovskaya defines pedagogical technology as a scientific and pedagogical substantiation of the nature of pedagogical interaction, a scientific and pedagogical substantiation of the system of professional skills of a teacher, allowing for a delicate touch on the personality of a student entering the culture; V.P. Bespalko gives the following definition: pedagogical technology - a project of a certain pedagogical system implemented in practice (Components of educational technology. - M, 1989, p . 5) .

New educational technologies have gone through several stages of development. Thus, the development of cybernetics and computing technology led to the development of programmed learning; the results of research on the patterns of development of human thinking led to the development of problem-based learning. Trends in the development of modern educational technologies are directly related to the humanization of education, contributing to self-actualization and self-realization of the individual.

An important feature is the connection of educational technology with psychology. Each technological link, chain, system achieves high efficiency, if it has psychological justification and practical outputs. Some technological tools associated with clarity, based on the peculiarities of figurative thinking and provide the most vivid perception of educational material. The foundations of others are based on the psychological laws of memorization by similarity, by association, by the power of emotional arousal. Still others are based on the ability of the nervous system to unconsciously master information or skill in the process of playing activity, or even sleep.

*Three principles of pedagogical technology are* known - these are consistently developed characteristics of pedagogical influence: focus on initiating the child's subjectivity, focus on maintaining the child's free choice as a subject, and focus on attitude as a result of education and the main object of the educational process.

However, in his understanding and usage, there are large discrepancies.

- *Technology* is a set of techniques used in any business, skill, art (explanatory dictionary).

- *Pedagogical technology* - a set of psychological and pedagogical installations that define a special set and layout of forms, methods, methods of teaching, educational tools; it is an organizational and methodological toolkit of the pedagogical process (B.T. Hachev).

- *Pedagogical technology* is a description of the process of achieving adjustable learning outcomes (I.P. Volkov).

- *Technology* is an art, skill, skill, a set of processing methods , state changes.

- *The technology of training* is an integral procedural part of the didactic system (M. Choshanov).

- *Pedagogical technology* is a model of joint pedagogical activity designed to design, organize and conduct the educational process with unconditional provision of comfortable conditions for students and teachers (V.Monakhov), thought out in all details.

- *Pedagogical technology* is a systematic method of creating, applying and defining the entire process of teaching and learning, taking into account technical and human resources and their interaction, which aims to optimize forms of education (UNESCO).

- *Pedagogical technology* means the systemic totality and functioning of all personal, instrumental and methodological means used to achieve pedagogical goals (M. Klarin).

In our understanding, pedagogical technology is a meaningful generalization that incorporates the meanings of all definitions of various authors (sources).

The concept of "pedagogical technology" can be represented by three aspects:

1) Scientific: pedagogical technologies - a part of pedagogical science that studies and develops the goals, content and methods of teaching and projects educational processes;

2) Procedural and descriptive: description (algorithm) of the process, a set of goals, content, methods and means to achieve the planned learning outcomes;

3) Procedurally effective: the implementation of the technological (pedagogical) process, the functioning of all personal, instrumental and methodological pedagogical tools.

Thus, pedagogical technology functions both as a science exploring the most rational ways of learning, and as a system of methods, principles and regulative used in teaching, and as a real learning process.

*Technology system* - conditional image of the process technology, its division into separate functional elements and the designation of logical links between them.

*Routing* - a description of the process in the form of a step-by-step, step-by-step sequence of actions (often in graphical form) indicating the means used.

Terminological nuances. In the literature and practice of schools, the term pedagogical technology is often used as a synonym for the pedagogical system. As noted above, the concept of a system is wider than technology, and includes, in contrast to the latter, the subjects and objects of activity themselves.

The deep meaning of pedagogical technology V. P. Bespalko sees:

*Firstly,* in a departure from impromptu and the transition to preliminary design;

*Secondly, in the* development of the structure and content of the educational and cognitive activity of the student himself;

*Thirdly,* in diagnostic targeting and objective control of the quality of students' learning of educational material and the development of the personality as a whole;

*Fourthly,* in the implementation of the principle of the integrity of the structure and content of the components of the educational process.

*The benefits of technology.* Compared with the training built on the basis of the methodology, the technology of training has significant advantages.

First, the technology is based on a clear definition of the ultimate goal. In traditional pedagogy, the problem of goals is not the leading one; the degree of achievement is not accurately determined. In technology, the goal is considered as a central component, which allows determining the degree of its achievement more accurately.

Secondly, the technology in which the goal (final and intermediate) is determined very accurately (diagnostically) allows us to develop objective methods for monitoring its achievement.

Thirdly, the technology makes it possible to minimize the situation when the teacher is faced with a choice and is forced to switch to pedagogical impromptu in search of an acceptable option.

Fourthly, in contrast to the previously used methodical lesson development oriented to teachers and its types of activity, the technology proposes a project of the educational process defining the structure and content of students' learning and cognitive activity, which leads to a higher stability of the success of almost any number of students.

The leading, core characteristic of learning technology is *flexibility*. *Content flexibility is* reflected primarily in the possibilities of both differentiation and integration of the content of training. This possibility itself takes place due to the block and modular principle of constructing educational material in the proposed technology. *Technological flexibility* provides the procedural aspect of training, including the variability of teaching methods, the flexibility of the monitoring and evaluation system, the individualization of students' learning and cognitive activity.

*The scope of the concept of "technology" in pedagogy* is currently not clearly defined. Today, the concept of "technology" is used in pedagogy, at least in three senses:

1. As a synonym for the concepts "methodology" or "form of organization of training" (technology of writing test papers, technology of organizing group activities, technology of communication, etc.)

2. As a set of all methods, means and forms used in a particular pedagogical system (technology by V. V. Davydov, traditional technology of training, etc.)

3. As a combination and sequence of methods and processes that allow to obtain a product with specified properties.

Using the concept of "technology" in the first sense does not give pedagogy something new, does not specify the learning process. It just happens that one concept is replaced by another. For example, if they used to say “the technique (or the system of D. B. Elkonin - V. V. Davydov”, now in order to show off their erudition, they say “the technology of D. B. Elkonin - V. V. Davydov.” changes of words the essence of the subject (the system of D. Elkonin and V. Davydov) did not change.

More recently, the teacher was offered only ready thematic planning of the educational content “cut” for one, two, three school hours and on behalf of the ministry was offered to teachers for compulsory execution. Therefore, the Russian teacher was unprepared; today he cannot distinguish the method from the technology. It makes sense to clarify - the technique in most cases is a set of recommendations on the organization and conduct of the educational process. The pedagogical technology is characterized by two fundamental points: the guarantee of the final result and the design of the future educational process. Pedagogical technology is an ordered system of procedures, the strict implementation of which will lead to the achievement of a certain planned result, i.e. in this case, the state standard.

4. In the second case, when technology means the totality of all methods, means and forms used in a particular pedagogical system, it is a question of a new concept with its own meaning. However, in this case, the concept of "technology" loses its original meaning with which it came from the industrial sphere. In addition, there is no clear distinction, which leads to confusion. The conclusion can be made unambiguous: the replacement of well-known and proven concepts with more general and non-specific ones is a definite step backward, a departure from scientific positions. Therefore, the term “technology” can be used only in the third interpretation, which retains the original meaning that came from industrial production (technology is the totality and sequence of methods and processes that make it possible to obtain a product with desired properties).

*The purpose of educational technology*

It is well known that the main goal facing the education system of any country and at all times reflects the public need to prepare the younger generation for life, for effective participation in the life of society. At different stages, this need changes, and therefore the global goal may change.

In order for the goal to help, it must, firstly, give a complete idea of the final result we want to receive, and, secondly, diagnose the result and unequivocally answer the question “Has the goal been achieved?”. Such a goal in pedagogy received the name of "diagnostic goal", i.e. goals, on the basis of which you can build a diagnosis of the achieved result.

Thus, the technologization of education requires:

1. Redefine the ideal (global goal) into a diagnostic goal.

2. Break the new diagnostic global target into steps and define diagnostic targets for each of the learning steps.

How to set a goal so that it becomes diagnostic? Science claims that the purpose of learning is considered diagnostic if the following conditions are met:

1. Given such an accurate and definite description of the quality, properties, skills, experience, which can be accurately distinguished from any other?

2. There is a diagnostic tool that allows objectively and unambiguously:

a) Identify the quality, property, skill, experience;

b) Measure the level of its development or formation;

c) Evaluate this level and compare it.

The concept of "educational technology" G.K. Selevko uses on three levels.

*General education level.* Pedagogical technology characterizes the holistic educational process in a given region, educational institution. Here, pedagogical technology is synonymous with the pedagogical system: it includes a set of goals, content, means and methods of teaching, and even an algorithm for the activities of the subjects and objects of the process (with the exception of themselves).

*Private methodical* (subject) level. Here, pedagogical technology is used in the meaning of a *private technique,* i.e., a set of methods and means for realizing a certain content of training and education in the framework of one subject, group, teacher (methods of teaching subjects, method of compensatory training, methods of work of a teacher, educator).

*Elemental* (modular) level. Let's start to consider the technology of *individual parts of* the educational process: the technology of individual activities, technology (the formation of concepts, the education of individual personal qualities, the technology of the lesson, the technology of assimilation of new knowledge, the technology of repetition and control of the material, the technology of independent work, etc.

*The structure of educational technology*

Vertical structure any pedagogical technology covers a certain area of pedagogical activity. This area of activity, on the one hand, includes a number of its components (and relevant technologies), on the other hand, it can itself be included as an integral part of the activity (technology) of a wider (higher) level. In this hierarchy (vertical structure) , there are four co-ordinate classes of educational technologies (adequate to the levels of the organizational structures of the activities of people and organizations

*Meta technologies* are an educational process at the level of implementation of social policy in the field of education (social and pedagogical level). These are general pedagogical (general educational, general educational) technologies that encompass a holistic educational process in a country, region, or educational institution. Examples: technology of developmental education, technology of quality management of education in the region, technology of educational work in this school.

*Macro technologies, or sectored* pedagogical technologies, cover activities in the framework of any educational industry, field, and direction of training or education, academic discipline (general pedagogical and general methodology). Examples: technology of teaching a school subject, technology of compensating learning.

*Meso technologies,* or modular-local technologies, are technologies for the implementation of individual parts (modules) of the educational process, or aimed at solving private, local didactic, methodological, or educational tasks. Examples: the technology of individual activities of subjects and objects, the technology of studying the topic, technology lesson, technology assimilation, repetition or knowledge control.

*Micro technology* - is a technology aimed at addressing the operational challenges and bottlenecks relating to the interaction of the individual self-action or subjects of pedagogical process (contact and personal level). Examples: technology for the formation of writing skills, training for the correction of individual qualities of the individual.

The horizontal structure of educational technology contains three main aspects:

*1) Scientific:* technology is a scientifically developed (developed) solution of a certain problem, based on the achievements of pedagogical theory and best practice;

*2) Formally descriptive:* technology is represented by a model, a description of the goals, content, methods and algorithms of actions used to achieve the planned results;

*3) Procedurally effective:* technology is the process of the implementation of activities of objects and subjects, - their goal-setting, planning, organization, and implementation.

Thus, pedagogical technology functions as a science (a field of pedagogical theory), which explores and designs the most rational ways of learning, and as a system of algorithms, ways and regulative of activity, and as a real process of training and education.

*The technological approach allows the followings:*

- to predict results with greater certainty and manage pedagogical processes;
- analyze and systematize on a scientific basis the existing practical experience and its use;
- comprehensively solve educational and socio-educational problems;
- provide favorable conditions for personal development;
- reduce the effect of adverse circumstances on the person;
- make optimal use of available resources;
- Choose the most effective and develop new technologies and models to solve emerging social and pedagogical problems.

*The main qualities of modern educational technologies*

Any pedagogical technology must meet certain basic methodological requirements (qualities).

*Technological scheme* (map) - conditional image of the process technology with the help of its division into separate functional elements and the designation of logical links between them.

*Scientific base* . Each pedagogical technology should be characterized by reliance on a certain scientific concept of learning, the scientific substantiation of the process of achieving educational goals.

*Consistency.* Pedagogical technology should have all the features of the system; the logic of the process, the relationship of all its parts, integrity.

*Controllability.* It assumes the possibility of goal-setting, planning, designing the learning process, phased diagnostics, varying means and methods to correct the results.

*Efficiency.* Modern pedagogical technologies exist in a competitive environment and must guarantee the achievement of a certain standard of training, be effective in results and optimal in cost.

*Reproducibility.* It implies the possibility of using educational technology in other similar educational institutions, other subjects.

*The main criteria for manufacturability are:*

- *Consistency* (integrity, integrity),
- *Scientific character* (conceptualism, developing character);
- *structure* (hierarchy, consistency, algorithm city, processuality, continuity, variability);
- *Manageability* (diagnostic, predictability, efficiency, optimality, reproducibility).

*Features of educational technology and technological processes are as follows:* Separate technological processes in their structure and methods of their implementation bring up only attention, diligence, the ability to act mechanically, exclusively with a strictly defined sequence of the main elements of the program. Other technological processes perform the function of support for active conscious mental work and develop in a creative person the ability to facilitate their work by coding, which can be formalized information. Teaching by a single method leads to monotony and monotony in learning with all the circumstances arising from this. Hence, the problem of choosing the technologies used their optimal combinations for achieving the best results of training and education, the problem of the measure and dosage of pedagogical influences quite naturally arises.

An important feature of pedagogical technology is also the "manufacturability" of the content of education or upbringing - its ability to undergo coding without losing its educational and training opportunities. One material is easily encoded and when decoded, reproduction is not distorted, is not deformed and is realized by students in its entirety and integrity. This happens, for example, when coding mathematical formulas, methods for solving typical problems; physical and chemical formulas and laws; historical facts, events, etc. to be memorized. In this case, the introduction of coded technological chains into the learning process increases its efficiency. Other information, being encoded, loses its educational and training opportunities. From art, only facts, external signs are subject to processing information, and the essence remains behind the scenes: ideas in their movement, development, theories and conceptual approaches, various assessments. The coding process of learning is limited when teaching literature, art, history, and the psychology of family life. Here, the use of purely technological approaches can lead to mindless memorization, formalism in knowledge.

The peculiarities of the pedagogical technology also include the fact that each technological link, system, chain, method needs to find its appropriate place in the integral pedagogical process. No technology can replace a lively, emotional human communication.

Another feature is that any pedagogical technology, its development and application require the highest creative activity of the teacher and students. The teacher attracts children to creative participation in the development of technological tools: the compilation of technological support schemes, maps, to the organization of technologically clear forms of education and training. The teacher's activity is also manifested in the fact that he is well aware of the psychological and personal characteristics of his students, and on this basis makes individual adjustments to the course of technological processes. For example, when processing the skills of solving typical tasks, some guys, the most prepared, knowing the sequence of technological working cycles, get complete independence. Other, less prepared, the teacher provides assistance and provides the opportunity for ongoing consultation. During the implementation of technological processes, the teacher organizes mutual consultations, mutual testing and mutual evaluation. The activity of children is manifested in increasing independence, in the implementation on the basis of technological tools of mutual learning, in technological creativity. Of great importance in the revitalization of students in the technological process have a psychological installation on the deep development of knowledge. Of great importance in the revitalization of students in the technological process have a psychological installation on the deep development of knowledge. Of great importance in the revitalization of students in the technological process have a psychological installation on the deep development of knowledge.

Within the framework of this approach to learning, the goal is to develop opportunities for students to independently master new experiences; the orientation of the teacher and students is the generation of new knowledge, ways of action, personal meanings.

*Requirements for the process.*

So, what should be done so that the process of communication and interaction of people can be called technological? For this, it is necessary to fulfill a number of mandatory requirements, the main ones being the following:

1. Setting a diagnostic goal (indicating the required level of learning).

2. Conducting objective monitoring of the process efficiency and determining the level of achievement of the set goal (for this level of learning).

3. Achievement of the final result with an accuracy of at least 70% (at this level of learning).

Pedagogical technology does not relieve the teacher from the need to think. Without a pedagogically developed thinking, pedagogical technology reduces education to the level of craftsmanship, deprives the creative influence, does not fulfill its purpose.

First, pedagogical technology acts as a condition that provides the tools through which exposure is carried out. Secondly, communication with students and the organization of their activities are seen as key elements of educational technology. Thirdly, its content will include a scientifically based system of skills related to such teacher functions as presenting a socialized demand, transferring social experience through verbal information, socialized student assessment, setting the goal of influences and analyzing the current situation.

***Classification of educational technology (G.K. Selevko)***

In theory and practice of schools today, there are many options for the educational process. Each author and performer introduces something individual into the pedagogical process, and therefore they say that a particular technology is author's. You can agree with this opinion. However, many technologies have quite a lot of similarities in terms of their goals, content, methods and means used and can be classified into several generalized groups according to these common features.

- *In terms of application,* general pedagogical, particular method (subject) and local (modular) technologies are distinguished.

- *On a philosophical basis:* materialistic and idealistic, dialectical and metaphysical, scientific (scientist) and religious, humanistic and inhuman, anthroposophical and theosophical, pragmatic and existentialist, free education and coercion and other varieties.

- *According to the leading factor of mental development*: biogenic, sociogenic, psychogenic and idealistic technologies. Today, it is generally accepted that a person is the result of the cumulative influence of biogenic, sociogenic and psychogenic factors, but a particular technology can take into account or rely on any of them, consider it the main one.

- *According to the scientific concept of learning,* the following are distinguished: associative-reflex, behavioral, gestalt technologies, developing ones.

- *According to orientation on personal structures*: information technologies (formation of school knowledge, skills, skills in subjects - ZUN); operational (the formation of methods of mental action - COURT); emotional-

artistic and emotional-moral (formation of the sphere of aesthetic and moral relations - SEN), technology of self-development (formation of self-governing mechanisms of the personality - SUM); heuristic (development of creative abilities) and applied (formation of an effective-practical sphere - SDP).

- *By the nature of the content and structure,* technologies are called: training and educating, secular and religious, general educational and professionally oriented, humanitarian and technocratic, various sectoral, private subject, as well as mono technologies, complex (poly technology) and penetrating technologies.

In mono technologies, the whole educational process is based on any one priority, dominant idea, principle, concept, in complex ones it is combined from elements of different mono technologies. Technologies whose elements are most often included in other technologies and play the role of catalysts, activators for them are called penetrating.

- *By type of organization and management of cognitive activity* V.P. Bespalko proposed such a classification of pedagogical systems (technologies). Teacher-student interaction (management) can be open-ended (uncontrolled and uncorrectable activity of students), cyclical (with control, self-control and mutual control), diffuse (frontal) or directed (individual) and, finally, manual (verbal) or automated (using learning tools).

The combination of these signs determines the following types of technologies (according to V.P. Bespalko - didactic systems):

1) classical lecturing (control - open, scattered, manual);

2) training with the help of audio-visual technical means (open, scattered, automated);

3) "consultant" system (open, directed, manual);

4) learning with the help of the educational book (open, directed, automated) - independent work;

5) the system of "small groups" (cyclic, scattered, manual) - group, differentiated ways of learning;

6) computer training (cyclical, scattered, automated );

7) tutoring system (cyclical, directed, manual) - individual training;

8) "Software training" (cyclic, directional, automated ), for which there is a pre-compiled program.

In practice, various combinations of these "monodidactic" systems usually come out, the most common of which are:

- traditional classic class-less system Y.A. Comenius, representing a combination of the lecture method of presentation and independent work with the book (discography);

- modern traditional education using screensaver in combination with technical means;

- group and differentiated ways of learning, when the teacher has the opportunity to share information with the whole group, and also to pay attention to individual students as a tutor;

- programmed training based on adaptive program management with partial use of all other types.

A fundamentally important aspect in the pedagogical technology is the position of the child in the educational process, attitude to the child by adults. Several *types of technology* stand out here :

a) a secondary technology, in which the teacher is the sole subject of the educational process, and the student is only an "object", "cog". They are distinguished by a rigid organization of school life, the suppression of the initiative and independence of students, the application of requirements and coercion.

b) didactocentric technologies are distinguished by a high degree of inattention to the personality of the child ; in which the subject-object relations of the teacher and the student also dominate, the priority of training over education, and the most important factors of personality formation are considered didactic means. Didactocentric technologies in a number of sources are called technocratic; however, the latter term, unlike the first, relates more to the nature of the content, and not to the style of pedagogical relations.

c) Personality-oriented technologies put the child's personality at the center of the entire school educational system, providing comfortable, conflict-free and safe conditions for its development, and realizing its natural potentials. The identity of the child in this technology is not only the subject, but also the priority subject; it is the goal of the educational system, and not the means to achieve some abstract goal (as is the case with authoritarian technologies). Such technologies are also called anthropocentric. Thus, personality-oriented technologies are characterized by anthropocentricity, humanistic and psychotherapeutic orientation and are aimed at the diversified, free and creative development of a child.

In the framework of personality-oriented technologies, humane-personal technologies, cooperation technologies and free education technologies stand out as independent directions.

d) D -personal technologies are distinguished, first of all, by their humanistic essence, psychotherapeutic orientation to support the individual, help her. They "confess" the idea of full respect and love for the child, an optimistic belief in his creative powers, rejecting coercion.

e) T technologies of cooperation implement democracy, equality, partnership in the subject-subject relations of the teacher and the child. The teacher and students jointly develop goals, content, give assessments, being in a state of cooperation, co-creation.

d) The technology of free education focuses on providing the child with the freedom of choice and independence in a greater or lesser sphere of life . By making a choice, the child best implements the position of the subject, going to the result from inner motivation, and not from external influence.

g) Esoteric technologies are based on the doctrine of esoteric ("unconscious", subconscious) knowledge - Truth and the paths leading to it. The pedagogical process is not a message, not communication, but communion with the Truth. In the esoteric paradigm, the man himself (the child) becomes the center of information interaction with the Universe.

*The method, method, means of* learning determine the names of many existing technologies: dogmatic, reproductive, explanatory and illustrative, programmed learning, problem-based learning, developmental learning, self-developing learning, dialogical, communicative, gaming, creative , etc.

*By the category of students the* most important and original are:

- mass (traditional) school technology, calculated on the average student;
- advanced technology (in-depth study of subjects, gymnasium, lyceum, special education, etc.);
- compensatory learning technologies (pedagogical correction, support, leveling, etc.);
- various victim logical technologies (deaf-, ortho-, typhlo-, oligophrenopedagogics);
- technology work with deviating (difficult and gifted) children in the framework of the mass school.

According to the content of upgrades and modifications, which the existing traditional system undergoes in technologies.

Monodidactic technology is used very rarely. Usually, the learning process is constructed in such a way that some poly-didactic technology is being constructed, which combines and integrates a number of elements of various mono technologies based on some priority original author's idea. It is essential that the combined didactic technology may have qualities superior to the qualities of each of its member technologies.

Usually, the combined technology is called according to the idea (mono technology), which characterizes the main modernization, makes the greatest contribution to the achievement of learning objectives. The following groups of technologies can be distinguished in the *direction of modernization of the* traditional system:

a) N pedagogical technologies based on humanization and democratization of pedagogical relations. These are technologies with procedural orientation, priority of personal relations, individual approach, non-rigid democratic governance and bright humanistic orientation of the content.

These include the pedagogy of cooperation, the humane-personal technology of Sh.A. Amonashvili, the system of teaching literature as a subject, a formative person. Ilyin and others;

b) n pedagogical technologies based on the revitalization and intensification of students' activities. Examples: gaming technology, problem-based learning, learning technology based on abstracts of reference signals V.F. Shatalov, communicative learning E.I. Passov et al .;

c) Pedagogical technologies based on the effectiveness of the organization and management of the learning process. Examples: programmed learning, differentiated learning technologies (VV Firsov, N.P. Guzik), learning individualization technologies (Inge Unt, V.D. Shadrikov), prospective-anticipatory learning using reference schemes with commented control (S. N. Lysenkov), group and collective ways of learning (I. D. Pervin, V. K. Dyachenko), computer (information) technologies, etc .;

d) pedagogical technologies based on methodological improvement and didactic reconstruction of educational material: the consolidation of didactic units (UDD) P.M. Erdnieva technology "Dialogue cultures» B. C.Bibler and S.Yu. Kurganova, system "Ecology and Dialectics" L.V. Tarashva, technology for the implementation of the theory of the phased formation of mental actions Volovich et al .;

e) period-like, using the methods of folk pedagogy, based on the natural processes of the child's development; training by L.N. Tolstoy, education of literacy according to A. Kushnir, technology M. Montessori and others;

f) Alternative: Waldorf pedagogy of R. Steiner, technology of free labor S. Frene, technology of probabilistic education A.M. Pubis;

g) to the complex polytechnologies (of the most well-known - “School of self-determination” by A. N. Tubelsky, “Russian School” by I. F. Goncharov, “School for All” by E. A. Yamburg, “School-Park” by M. Balaban and others).

*Technology and content of education.* AT Nowadays, in pedagogy the idea of the unity of the components of the educational system has been established: the goals, content, methods, forms and means of education. The content of education, being entities as part of educational technology, largely determines its procedural part (set of methods and tools). In the process of improvement and variations of pedagogical technologies, various components exhibit varying degrees of conservatism. Most often, the procedural aspects of training vary, and the content varies only in structure, dosage, and logic. However, fundamental changes in methods entail equally profound transformations of goals, content and forms, and a fundamental change in goals and content leads, in turn, to a revision of the procedural aspect of training. In this way, technology and educational content adequately reflect each other.

Between the technological process and the content of education there is another mediating component (the most important didactic tool) - a textbook that plays a crucial role in the realization of the unity (adequacy) of the content and technology of education.

The local scale of the term "technology", denoting the way to achieve operational learning and educational tasks, for example, "technology of forming concepts", "technology of creating a situation of success", is probably appropriate, but strictly speaking, contradicts the pedagogical pattern about the integrity of the educational result. There is no didactic or educational technology, but there is a single educational technology, which can be technologies of various types of CIP. It is impossible to form a concept separately; in the course of this pedagogical activity, naturally, the process of the formation of a personality is realized. Therefore, the systematization of technology in pedagogy can be correlated with the number of types of pedagogical processes.

Based on the proposed M.N. Skatkin types of educational process: dogmatic, explanatory (contemplative), productive, are added in accordance with the levels of assimilation of educational content suggestive and personal, and explanatory, called reproductive, are divided into formal and essential subtypes.

| Type of | Achievable result | Cognitive student activity | Typical teaching methods |
|---|---|---|---|
| Suggestive | psychological readiness | neutral activity | |
| Dogmatic | surface orientation | learning | reporting |
| Formal Reproductive | formal knowledge | understanding, reproducing activity | explanatory and illustrative |
| Essential Reproductive | skills | thinking, interpretive activity | reproductive, problem solving |
| Productive | creative thinking | independent search, creative activity | problem training |
| Personal | personality | collective search | solving problems with personal life meaning |

DOGMATIC type, taking its name from the dogmas (dogmas), in the form of which the mastered learning content is presented, is a long history of education. Medieval catechism, monastic cramming are the classic form of its manifestation. However, the recurrence of dogmatic learning occurs to this day, when emphasis is placed on the pure memorization of definitions, rote memorization without an understanding of the meaning.

Dogmatic training became the first type that was widespread: it took quite a lot of people who were literate, able to count, write, but not think. Any deviation from dogma was immediately stopped. Units of ten thousand made their way through the thickness of the cramming to their own opinion, to the truth.

With the development of the means of production, the complexity of the work process and the tasks solved by the worker, it was not the execution of routine actions that was required, but skillful activity, the use of labor methods in various situations; instead of an appendage of the machine, an employee of understanding became necessary.

REPRODUCTIVE learning, aimed at the most rapid mastering of experience by an individual, does not require explanations, these are our traditions. Curricula, textbooks, the usual style of interaction with the student, established forms of education and, above all, the lesson itself, the organization of classrooms and the entire educational building - all of this is today most adapted to the requirements of this type of educational process. The reproduction was prepared by a competent worker, but an artist who is not able to create something new. The response to the social order was the promotion of problem-based learning, and later, of active learning methods. There is no need to prove

the need for a productive type: on everyone's lips development of creativity, activation of cognitive activity. It should only be soberly acknowledged that the entourage of today's school has not changed since the time of the founder of didactics. Lesson, extremely clumsy from the standpoint of creative activity, is recognized as the "main organizational form of education. This fact cannot be regarded as a disadvantage of pedagogical practice: it follows from it, according to another regularity of education, that the arrow of social need does not yet indicate a graduate-creator and a productive type cannot be massive.

Nevertheless, the PRODUCTIVE type is a requirement of time, a logical step in the development of teaching practice. Its characteristic features are independent, rather than teacher-organized cognitive activity of the student and creative thinking as a key element of the result of education. It is clear why all modern recommendations for improving the learning process converge on developmental learning and the use of active learning methods.

Interconnected reproductive and productive activities are different stages of the same learning process. In turn, both reproductive and productive activities can be divided into smaller stages. So, V.P. Bespalko proposes to consider mastering as a process consisting of four levels.

**Level 1** (student) - the easiest level of reproductive activity. At this level, all components of the problem are known (goal, situation and actions to solve it). The student is only required to give an opinion on the compliance of all three components in the structure of the task.

**Level 2** (algorithmic) - a more complex level of reproductive activity. In tasks designed for this level, only the goal and the situation (conditions) are set. The student is required to apply previously learned actions to solve it.

**Level 3** (heuristic) is the first level of productive activity. In the task of this level only the goal is set, nor the situation (conditions), the actions that need to be used to achieve the goal, are not specified and are unclear. The student is required to clarify (speculate) the situation and choose which of the previously learned actions may be suitable for solving this atypical problem.

**Level 4** (creative) is the most difficult level of productive activity. The activity of this level is characterized by the absence of tasks as such. The student sets a goal for himself, formulates it, details it and further searches for possible situations (conditions) and actions. leading to their chosen goal.

*Personal type of educational process.*

The name does not mean that a person's public image (guise) is formed here, it was in any type of education, but that the formation of knowledge, ways of working, thinking is used as a means of educating the individual, self-growing it in close contact, cooperation with others . A product of this type is a person not with an imposed moral person, but an individuality that has built itself up in creative social interaction with others.

**Suggestio (lat.) -** suggestion. It is known that "suggestion is a form of communication in which the suggesgend, passively and involuntarily, without thinking, acquires the ideas expressed by the suggestor and performs without a struggle the motives of its task". This level of neutral activity does not represent a focused interest for organized learning, but actually takes place. The reason for this is the passive state of the student and the unconscious response to what is happening. Something remains in the child's subconscious, and he may subsequently become familiar with the topic. Educational process it can be called only in quotation marks, and yet we denote it as a separate type, as there are examples of its use, for example, in original teaching of foreign languages while quietly whispering to a sleeping person a lesson that he personally will receive in the morning. The use of such states to ensure psychological readiness for any activity can be called SUGGESTIVE technology.

Since pedagogical (educational) technologies are mainly designed to provide the above two functions: guarantee of results and transfer of experience, emphasis should be placed on the requirements for the technological description of experience.

1. Presentation of the lesson's learning goal or its fragment as an activity experience with an indication of the knowledge component; practical action; mental operations that the student must master; motives included in this activity. At various levels of mastering the content, components have a qualitative originality and a key element.

2 The activity of the learner, as central to technology, should be described on the basis of a typical structure in accordance with the theory of learning activities by V.V. Davydova: Mt (motivation) - C (goal setting) - And (perception of information) - About (thinking) - L (planning) - F (implementation) - K (control) - About (assessment).

The listed basic moments of educational technology are both necessary and sufficient for obtaining a similar result in the new conditions, the subsequent ones are more related to the methodological design.

3 The activity of the teacher, described by the methods and forms of education.

4. A very important way to present the material.

5. The logical conclusion of the technological description is the fixation of the control procedures.

In addition to the above listed classification of pedagogical technologies there are:

*Subject-oriented learning technologies:*

- technology "full learning";
- technology level differentiation;
- technology of concentrated learning;
- university technology training in NGOs, etc.

*Student-centered learning technologies:*

- technology teaching workshops;
- modular learning technology;
- technology of learning, as educational research;
- collective thinking technology;
- technology of business games;
- technology of educational design, etc.

To develop the complex, we used a combination of these two classes of technologies based on the principle of compatibility and complementarily, taking into account the modern goals of vocational education.

**Questions for self-control:**

1. What is the difference between the concepts of "technique" and "technology"?
2. What is the purpose of educational technology?

3. Describe the quality of educational technology.

4. Give a description of the types of educational process.

**Ii . Technology based on student revitalization**

**Gaming technology**

The principle of activity of the child in the learning process remains one of the main in didactics. This concept implies such a quality of activity, which is characterized by a high level of motivation, a conscious need for the assimilation of knowledge and skills, and effectiveness. Any technology has the means of activating and intensifying the activity of students; in some technologies, these means form the main idea and the basis of the effectiveness of the results. These technologies include gaming technology.

The game greatly contributes to the development of children. The basis of the game is real life. The game has its own laws of development; a certain stage corresponds to each age. Playing along with work and learning is one of the main human activities. The value of the game cannot be exhausted and appreciated by recreational and recreational possibilities. Being entertainment, recreation, the game can turn into learning, creativity.

The lesson is the main component in school education and upbringing, a form of realization of pedagogical influences, where direct and systematic communication of the teacher and students takes place. Nowadays, non-traditional forms of lessons using gaming technology are widespread. In my work, in geography lessons, I use games. The game in the classroom activates students, increases cognitive interest. It causes an emotional lift in children, increases efficiency, which goes into creativity. The new always gives rise to curiosity and curiosity, at the manifestation of which the students strive to obtain new knowledge. The lessons, games are very lively, in an emotionally favorable psychological environment, in an atmosphere of goodwill, freedom, equality, in the absence of constraint. A special communication between the teacher and the students is established.

Experience shows that gaming technology helps students relax, self-confidence appears. Getting into real-life situations, situations of success created by gaming technology, students better learn the material of any complexity.

Most games have four main features:

***Free*** developmental ***activities*** undertaken only at the request of the child, for the sake of pleasure from the process of the activity itself, and not only from the result;

***The creative,*** largely improvised, very active ***nature of*** this activity;

***Emotional elevation of*** activity, rivalry, competition, competition, etc .;

***The presence of*** direct or indirect ***rules*** reflecting the content of the game, logical and temporal sequence.

Pedagogical game has the essential features:

- Clearly stated goal of training and education;

- Involvement of all students in the class;

- Management of the game;

- A combination of individual and teamwork;

- summing up and evaluation;

- increase the cognitive motivation of students.

By the nature of the pedagogical process, the following groups of games are distinguished:

- Training, training, controlling;

- Cognitive, educational, developmental;

- Reproductive, productive, creative;

- Communicative, diagnostic, vocational guidance.

The lesson-game can be used both during the passage of new material, and for the final test of knowledge, for generalization and repetition. This necessarily takes into account the age characteristics of students. For middle school students, you can conduct KVN lessons, teleconferences, competitions, auctions, etc. In the upper grades, there are debates, business games, conferences, and elections. Gaming technology is used in the conduct of extracurricular activities. Such games as “Around the World”, “Geographical Fever”, “The Book of the Jungle”, and “Erudite” have become traditional in our school. At the end of the school year, summing up the work done, a ceremony is held to give students the titles of "The Best Geographer", "The Best Connoisseur of the Map", as well as the award of the symbolic title of "Master of Geographical Sciences".

Gaming technology helps students form solid knowledge. Students have an increasing interest in geography. Geographical literacy acquired during school years is the basis of rational, socially responsible human behavior in the outside world.

**.Classification parameters of gaming technology**

By level of application: all levels.

On a philosophical basis: adaptable.

According to the main factor of development: psychogenic.

According to the concept of learning: associative-reflex + gestalt + suggestion.

According to the orientation on personality structures: ZUN + COURT + SUM + SEN + SDP.

By the nature of the content: all species + penetrating.

By type of management: all kinds - from a consultation system to a program.

By organizational forms: all forms.

On the approach to the child: free education.

By the prevailing method: developmental, search, creative.

In the direction of modernization: activation.

By trainee category: mass, all categories.

Range of target orientation:

Didactic: outlook, cognitive activity; the use of ZUN in practice; the formation of certain skills necessary in practice; development of general educational skills; development of work skills.

Educators: education of independence, will; the formation of certain approaches, positions, moral, aesthetic and ideological installations; fostering cooperation, collectivism, sociability, communication.

Developing: development of attention, memory, speech, thinking, abilities to compare, compare, find analogies, imaginations, fantasies, creative abilities, empathy, reflection, ability to find optimal solutions; development of motivation for learning activities.

Socializing: introduction to the norms and values of society; adaptation to environmental conditions; stress control, self-regulation; learning to communicate; psychotherapy.

Conceptual basics of gaming technology

Psychological mechanisms of gaming activity are based on the fundamental needs of the individual in self-expression, self-affirmation, self-determination, self-regulation, self-realization.

The game is a form of psychogenic behavior, i.e. inherent, immanent personality (D.N. Uznadze).

The game is a space of "internal socialization" of a child, a means of mastering social attitudes (L.S. Vygotsky).

The game is the freedom of the individual in the imagination, "the illusory realization of unrealizable interests" (A. Leontiev).

The ability to join the game is not related to the age of the person, but at each age the game has its own characteristics.

The content of children's games develops from games in which the main content is subject activity, to games that reflect relationships between people, and finally to games in which the main content is submission to the rules of social behavior and relationships between people.

In the age periodization of children (D.B. Elkonin) a special role is assigned to the leading activity, which has its own content for each age. In each leading activity, corresponding mental neoplasms arise and form. The game is the leading activity for pre-school age.

## Features of gaming technology

All the following preschool age periods with their leading activities (primary school age are educational activities, medium social benefit, senior school age educational activities) do not crowd out the game, but continue to include it in the process.

## Gaming technology in primary school age

Brightness and spontaneity of perception, ease of entering the images are characteristic of primary school age. Children are easily involved in any activity, especially in the game, they independently organize a group game, continue games with objects, toys, non-imitation games appear.

In the game model of the educational process, the creation of a problem situation occurs through the introduction of the game situation: the problem situation is experienced by the participants in its game embodiment, the basis of the activity is game modeling, a part of the students' activity occurs in the conditional game plan.

The guys act according to the game rules (so, in the case of role-playing games - according to the logic of the role played, in the simulation and modeling games, along with the role position, the "rules" of the simulated reality operate). The game situation transforms the position of the teacher who balances between the role of the organizer, the helper and the accomplice of the common action.

The results of the game appear in a double plan - as a game and as a result of educational and cognitive. The didactic function of the game is realized through the discussion of the game action, the analysis of the ratio of the game situation as a simulator, its relationship with reality. The most important role in this model belongs to the final retrospective discussion, in which students jointly analyze the course and results of the game, the ratio of the game (simulation) model and reality, as well as the course of the training-game interaction. The arsenal of primary school pedagogy contains games that contribute to the enrichment and consolidation of a household vocabulary and coherent speech in children; games aimed at the development of numerical representations, learning to count, and games that develop memory, attention, observation, strengthen the will.

The effectiveness of didactic games depends, firstly, on their systematic use, and secondly, on the purposefulness of the program of games in combination with the usual didactic exercises.

Game technology is built as a holistic education, covering a certain part of the educational process and united by a common content, plot, character. It includes consistently games and exercises that form the ability to single out the main, characteristic signs of objects, to compare, to compare them; groups of games for the generalization of subjects on certain grounds; groups of games, in the process of which younger students develop the ability to distinguish real phenomena from unreal ones; groups of games that bring up the ability to control oneself, speed of reaction to a word, phonemic hearing, ingenuity, etc. At the same time, the game plot develops in parallel to the main content of training, helps to activate the learning process, to master a number of training elements. Compiling gaming technologies from individual games and elements is the concern of every elementary school teacher.

In domestic pedagogy, there are a number of such gaming technologies (Sam Samych, V.V. .

Methods of teaching children the theory of music V.V. Kiryushina. This technique is based on the correspondence to each musical concept of an animated character (the octave is a giraffe, the third is a sister, a dissonance is an evil wizard, etc.). All heroes experience different adventures in which their essential attributes and qualities are manifested. Together with the characters, children from the age of three unknowingly learn the most complex musical concepts and skills, concepts of rhythm, tonality, and the beginning of harmony.

## Gaming technology in middle and high school age

In adolescence, there is an aggravation of the need to create their own world, in the pursuit of adulthood, the rapid development of imagination, fantasy, the emergence of elemental group games.

Features of the game in senior school age is the focus on self-affirmation before the society, humorous coloring, the desire to play, focus on speech activity.

## Didactic games

Didactic games are not only a means of intellectual development, as well as the development of cognitive mental processes, but also a game form of education.

The following structural components of the didactic game are distinguished:

- didactic task;
- game task;
- game actions;
- rules of the game;
- result.

The didactic task is due to the purpose of the training and educational impact. The game task defines game actions. It is formed by the teacher and reflects his learning activities in front of children in the form of a game plan. Game actions (game fundamentals) are connected with the game plan and proceed from it. How are they more diverse, i.e. the more interesting the game, the more successfully the cognitive and game tasks are solved.

The rules of the game contain moral requirements for the relationships of children, for the fulfillment of norms of behavior and influence the solution of a didactic task - they imperceptibly limit the actions of children, direct their attention to the fulfillment of a specific task of an educational subject. Summing up (result) helps to identify children who have better fulfilled the game task, determine the winning team, etc. The teacher should note the achievements of each child, emphasize the success of lagging children.

The main functions of the didactic game is the formation of:

- sustained interest in learning; stress relief associated with the process of adaptation of the child to the school mode;

- mental neoplasms;

- proper educational activities of the child;

- social skills, educational and independent work;

- skills of self-control and self-assessment;

- adequate relationships and social roles.

**Role-playing games**

The idea of a role-playing game, taken in its simplest form, is to appeal to someone with a request to present himself or another person in a particular situation. The main elements of this type of game are an imaginary situation, a plot and a role. When planning a role-playing game, the game task must be defined and the conflict underlying the plot and the plot that drives the plot should be outlined. A typical mistake made in practice is the substitution of a role-playing game by a staged game. By itself, this methodical technique is interesting, but it is not a game, since improvisationalism disappears, unpredictability of turns in the development of action, requiring the participants to make independent decisions; not in the dramatization of the emotional state and the relaxed relaxation of the players.

If the plot is chosen successfully, and the roles are distributed correctly, then the game begins to "play itself", you can only plan its tactics. The training to which the game is directed may be direct or indirect: it is connected either with the child's personal participation in the action, or with its observation.

Role-playing is ideal in situations where students need to master new ways of behavior, when students need to master new ways of behavior, to become more aware of their own capabilities and to better understand the positions of other people. It is a game situation, lived in all seriousness and then discussed, that allows the child to gain significant experience.

Role-playing should include the following conditions:

- realistic;

- educational nature (the situation involves the application of knowledge, the development of skills, the study of behaviors);

- the presence of the plot and intrigue for its development.

Place role-playing in the structure of lessons can be very different. It is productive and interesting to invite students to play a real situation before learning a new topic. Fortunately, if it turns out to link the educational content with a case from the life of someone from schoolchildren or acquaintances. Observing the game and a small discussion of its progress are the strongest means of motivating students to study the new topic thoroughly and at the same time introduce them into the problematic. This plot of the plot, introduced in the middle of the lesson, is a way to change the tempo of the lesson, illustrated by a teacher.

If the teacher suggests the specific situation for playing (he finds it himself), then he writes on the cards the roles and information for their effective presentation. Information should be provided to the extent necessary to investigate this problem, and not overload them with unnecessary details or facts. It is necessary to report the main characteristics of the character.

When the game action is completed, it should be discussed. If the teacher sees that not everyone who wishes has spoken, there are emotional problems left, he can ask the students to write an essay on the results of the game at home.

So, the role-playing game has a modeling character: children, playing this or that plot, recreate (model) the relationships of adults, gradually moving from isolating external objective actions characteristic of an adult person to isolating his relationships with other people.

**Business games**

The business game is used to solve the complex tasks of mastering the new, consolidating the material, developing creative abilities, forming general educational skills, enables students to understand and study the educational material from different positions.

In the educational process, various modifications of business games are applied: imitation, operational, role-playing games, business theater, psycho - and sociodrama.

| | | |
|---|---|---|
| Stage preparation | Game development | scenario development - business game plan - general description of the game - content of instruction - preparation of material support |
| | Putting into the game | problem statement, goals - conditions, instruction - regulations, rules - distribution of roles - formation of groups - consultations |
| Stage holding | Group work on the task | work with sources - training - brainstorming - work with a game technician |
| | Intergroup discussion | group speeches - protection of results - rules of discussion - the work of experts |

| | | |
|---|---|---|
| The stage of analysis and synthesis | | conclusion from the game - analysis, reflection - assessment and self-assessment of work - conclusions and generalizations - recommendations |

*Stage of the process - the game.* With the beginning of the game, no one has the right to intervene and change its course. Only the leader can correct the actions of the participants if they move away from the main goal of the game. Depending on the modification of the business game, different types of participants' role positions can be entered. Positions that are manifested in relation to the content of the group work: the generator of ideas, the developer, the simulator, the erudite, the diagnostician, the analyst.

Organizational positions: organizer, coordinator, integrator, controller, trainer, manipulator.

Positions that manifest themselves in relation to the novelty: the initiator, cautious critic, conservative.

Methodological positions: methodologist, critic, methodologist, problematizer, reflective, programmer.

Socio-psychological positions: leader, preferred, accepted, independent, not accepted, rejected.

The stage of analysis, discussion and evaluation of the results of the game. Speeches of experts, exchange of views, protection of their decisions and conclusions by students. In conclusion, the teacher states the results achieved, notes the mistakes, formulates the final result of the lesson. Attention is paid to the comparison of the used imitation with the corresponding area of the real person, the establishment of the connection of the game with the content of the subject.

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RESEARCH ARTICLE

# Perspectives on School Infrastructure: A British Example

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**Doi Serial** https://doi.org/10.56334/sei/8.10.22

**Keywords** Educational infrastructure, learning environments, school investment

**Abstract**

Since the 2013 "State Strategy on education development in the Republic of Azerbaijan", modern educational infrastructure for lifelong learning has been one of the main strategic directions in the country. Five years since "The Strategy" came into force, we are still unsure what we should invest in and what we should not invest in. Bringing evidence from a country with high levels of research into educational infrastructure - the UK- we can draw conclusions about which school spaces are the most worthy of investment in accordance with the relevant teaching methods outlined in the aforementioned Strategy.

Since school spaces inform and support relevant teaching methods, assessing their relevance to their users, - teachers and school children - is critical in deciding where investments should be made in order to provide the best possible learning and teaching spaces to meet the long-term needs of the country.

This research employs evidence from a British public primary school in the North East of England as a case study, where a constructivist view of education and an experiential/ hands-on approach to learning dominate schooling. Mixed research methods, including observation of the school, diamond ranking activities with the children and their teachers, and an interview with the head teacher were employed in order to understand the children's and teachers' views towards different learning spaces in their school and classrooms. The study concludes with clear summary of each space's use and necessity, and suggestions for further investment. The study reveals interesting facts on children's and teachers' attitudes towards school infrastructure, as well as how their views coincide with each other's.

**Citation.** Ahmadli G. (2025). Perspectives on School Infrastructure: A British Example. *Science, Education and Innovations in the Context of Modern Problems*, 8(10), 224–236. https://doi.org/10.56352/sei/8.10.22

**Issue:** https://imcra-az.org/archive/383-science-education-and-innovations-in-the-context-of-modern-problems-issue-9-vol-8-2025.html

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Received: 16.05.2025 | Accepted: 10.07.2025 | Published: 01.08.2025 (available online)

## Introduction

The 2013 "State Strategy on education development in the Republic of Azerbaijan" highlights educational infrastructure for lifelong learning as a main strategic direction. However, strong research evidence is needed in order to strategize investment in learning infrastructure. Drawing conclusions from research evidence in the example of British schools will help us to understand which school spaces are relevant and worth investing in in terms of learner and teacher satisfaction. British primary schools employ experiential, constructivist, and student-oriented teaching practices in order to deliver the national curriculums. There is an inter-dependent relationship between the

constructivist teaching styles and the physical environment of the school. While constructivism informs the design of the learning environments of the school, the school spaces, in turn, support the relevant teaching practices. Student-centred learning has been a topical issue at school and policy level since the constructivist educational methods began informing educational practices. It allows learners to actively construct their own understanding and meaning of knowledge. This kind of learning lets learners take responsibility for their own learning process, since they need to make connections to make sense of the information. As a result, learning becomes an experiential, rather than a transmissive process. But to what extent does the school infrastructure support this type of student-centred experiential learning? Relevant tools and spaces can give the learners chances to explore, test, and participate in building practical knowledge. That is why school spaces worldwide are changing to support dialogical and active learning and to promote children's experiential understanding.

This is a research-based project investigating children's and teachers' attitudes to the learning environments in a primary school in the United Kingdom, focusing on the learning spaces in the school, what children feel about their spaces, and how teachers evaluate their effectiveness in terms of learning. It is of great importance that the children can get the most out of the existing environment in the school, since they spend much time there, engaging in different learning and social activities. The more the children feel comfortable and pleased with the school, the more likely they are to enjoy school and be motivated to learn.

Schools spend huge amounts of money on the maintenance and renewal of the school spaces, furniture, state-of-the-art educational technology, educational software etc. How are these spaces being used? Some spaces and tools in the school may be used less often than the others, and some may be neglected over time. Very often, certain tools are bought at large expense by the schools, and not used as much as they were supposed to be.

Since the 1990s, constructivism has begun to revolutionise teaching and learning practices. From this point of view, the children construct knowledge based on their own experiences, and modern schools employ hands-on learning and practical teaching methods, where children are actively engaged in teaching and learning. There is considerable evidence that this method produces more interesting and interactive learning time in class and more positive attitudes towards school. These theoretical changes in education have informed changes in the design of schools and of learning environments.

Schools now adjust their spaces to support contextualised, goal-oriented, and real-life student learning. This representative case study looks at the effects of the infrastructure on children's learning. The school is a community school that is situated in North East England, in a slightly isolated part of a small market town. It has 151 pupils on roll. There is a Specialist Language class with a special listening station and other practical/ physical tools to support learning, which is run by language and speech therapists. Classrooms in the school have been designed to support different skills. All are large and tidy. The whiteboards in some classrooms have been recently replaced with flat screen Apple TVs. All classrooms have the following basic resources: a large carpet area, whiteboards (or flat screen TVs), child-size tables and chairs, and other appropriate furniture. The Early Years Unit (the Nursery and the Reception classrooms) was fully refurbished early in the 2015-2016 school year, at the cost of £30,000. The reason for the changes in the Early Years Unit was that the previous design, learning resources, and furniture were old and outdated. The Nursery teacher describes it: "You see the classroom area is so big. We have recently bought some new furniture, so that we can make small, purposeful areas in the class" (field notes).

The school library and the computer room are situated in the same room. The school puts special emphasis on teaching Information and Communication Technologies (ICT) skills.

There is a large outdoor area, which includes: a play area, used for Physical Education, two playgrounds, and a Community Garden. They have different types of climbing and running facilities, an empty space for ball games, wooden tools and stools, and other resources. The Early Years playground has a lot of physical facilities: slides, ropes, playhouses, a sandbox, a seesaw, a spring rider, and other children's toys.

One of the most interesting places in the school is the Community Garden, situated at the back of the school building. The garden area is big enough for the children to work in groups, individually, or with the gardeners. It has several

small purposeful parts to support different gardening skills and science learning. This part of the school is used for a considerable amount of curriculum time, and the school is planning to increase this time in the coming years.

## Methodology

The main methods of data collection were observation of the school, a diamond ranking activity with the children and the teachers, and a semi-structured interview with the head of the school that followed the diamond rankings. Additional methods, such as photographing the school, a preparatory focus group interview with teachers and analysis of the official Ofsted report and the school website have been used in order gain a thorough knowledge of the school.

Any research in the UK and at Newcastle University is subject to ethical consideration both at faculty level and at the level of the ethics committee, and should follow the guidelines set by the British Educational Research Association (BERA) for conducting objective, ethically appropriate, and harmless research (BERA, 2011). For anonymity purposes, neither the school name nor the participants' names will be used, and names are replaced with pseudonyms.

Case studies are often criticized because of validity concerns. These concerns can be overcome by using multiple research methods for data collection. An interesting study on using multiple methods for understanding children's perceptions provides evidence that multiple methods can produce valuable insights into children's complex world and experiences, which otherwise might have been more difficult (Darbyshire, MacDougall and Schiller, 2005).

Initial preparation included consideration of the school website, the last Ofsted report in which the school had been evaluated as 'good' (Ofsted, 2012), and the 'Compare School and College Performance' website of the UK's Department for Education. This was important gaining familiarity with the school and setting expectations before the actual visit to the school. An observation of the school and a small focus group interview with the class teachers and the teaching assistants were conducted in order to gain an initial impression of how and how frequently the school spaces were used. During the focus group, the teachers were asked: 1) about the learning spaces in the school, 2) how frequently they use each space, 3) general comments about the effectiveness of each space in terms of learning, and 4) whether children liked the learning spaces. Based on the answers given during the teachers' focus group, the most frequently used school spaces were divided into two groups: classroom spaces and common spaces. Each class uses the common learning spaces in the school, such as the ICT room and the library, the outdoor playing area, the playgrounds, and the school garden, as well as their own classroom. A general approach has been followed in taking photos in order to ensure their comparability and generalise the results in the analysis process.

**Figure** 1. Early Years Unit common spaces: the playground

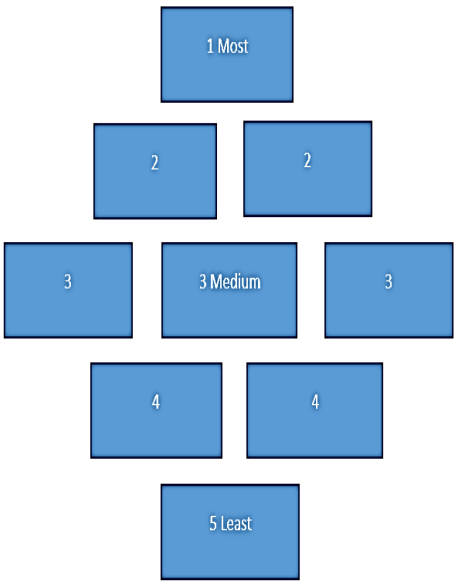


**Figure** 2. Year 2: Carpet space and table space

Guidelines set out by Clark et al. (2013) were used in designing the diamond ranking activities. The diamond ranking activities present enough visual data for the participants to get involved in the questions and to promote valuable discussion among them (Clark, 2012). Visual methods activate people's visual memory, which in turn helps them to recall memories and experiences (Harper, 2002). Children were worked in groups of four to six, to discuss the photos, deciding as a group on their favourite and least favourite space. They also wrote their comments about each space around the photos (Figure 3 and Figure 4). Overall, 104 children and six teachers participated in the diamond rankings.

**Figure** 3. Diamond ranking of nine photos

Each group of children was given a set of nine photos of their own classroom and of the common learning areas in the school, an A2 paper sheet, a glue stick and a few pens to write their comments. The children were asked: 'Which is your most favourite and least favourite spaces to learn in the school?' They commented on how they felt about learning and spending time in those spaces (Figure 5).

**Figure** 4. A set of nine photos for the diamond ranking activity in Year 3

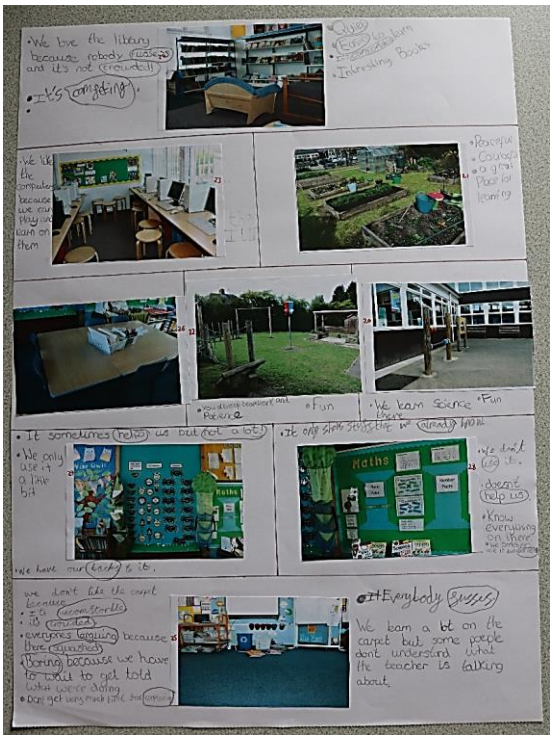
We love the library because nobody (talks) and it's not (crowded)!
It's (inviting)
Interesting Books
We like the computers because we can play on them and learn on them
Fun
We learn Science
Fun
It sometimes (helps) us but not a lot!
We only use it a little bit
Maths
doesn't (help us)
Know everything on there
We have our (books) to do.
we don't like the carpet because
(uncomfortable)
(crowded)
everyones (laughing) because (they're squished)
(boring) because we have to (sit) to get told
Everybody (guesses)
We learn a lot on the carpet but some people don't understand what the teacher is talking about

**Figure** 5. Diamond ranking activity in Year 4 (a group of 5 children)

The teachers were asked to rank the spaces according to their effectiveness in terms of children's learning. For triangulation purposes and in order to positively contribute to the school, the results from the diamond rankings were discussed with the head teacher in a semi-structured interview. The interview questions also asked about the usage and

organisation of different learning spaces, management and maintenance of the infrastructure, the costs for creating and maintaining spaces, and effective usage of them. Interview preparation included an interview guide, consultation of official statistics, such as the school's income and outgoings, the proportion of the costs spent on the infrastructure, and relevant comments in the latest Ofsted report. The interview included questions about the recent changes in the Early Years Unit, the reasons for these changes and the costs associated with them, the Specialist Language Class, and the Community Garden. There was also discussion of the school's renovation and maintenance, and the most recent Ofsted report and its effects on the infrastructural changes in the school. The results from the diamond ranking activities were reported to the head, and they were discussed in detail.

## Results

The focus group interview with teachers revealed that the teachers mostly consider 'computers and books' as the main learning resources. Nearly all teaching staff mentioned the computer room as an enjoyable space to work in, while 'reading and reading areas in classrooms' were the least favoured activity and space. The teachers think that the children enjoy play time, as well as music and creative arts, which happen in the computer room., Teachers also emphasised the importance of the carpet space. One of them pointed out: 'When they [children] are on the carpet, they are less distracted by peers, and all of them are close to you'. The teachers emphasised the positive effects of the school garden on children's learning.

The results show that for the children, the top ranked learning spaces are the school garden and the large playground (Figure 6). The computer room too, has a high position on the diamonds (60%). The children ranked the carpet space and the classroom displays as their least favourite spaces for learning in the school. The diamond ranking of the school spaces is accompanied by the children's comments about these spaces. The children in all classes used the word 'fun' when talking about learning outdoors. This was evident from their comments on the school garden and the large playground.

'We work in teams in the playground, and get fresh air', Charlie, Year 4

'You develop teamwork and patience [in the large playground]', Casey, Year 4

'It is colourful and peaceful in the garden', Colin, Year 3

The children labelled the spaces which they disliked as 'boring'. Nearly all children mentioned that sitting on the carpet and listening to the teacher was boring. Jess from Year 4: 'It is boring because you have to sit quietly and wait for ages to be told what you are going to do'. Many children commented on the physical difficulties of sitting on the carpet.

Of all nine categories, children think that listening to the teacher on the carpet and doing tasks at their tables are the most effective times for learning, although they do not find these particularly interesting or 'fun'.

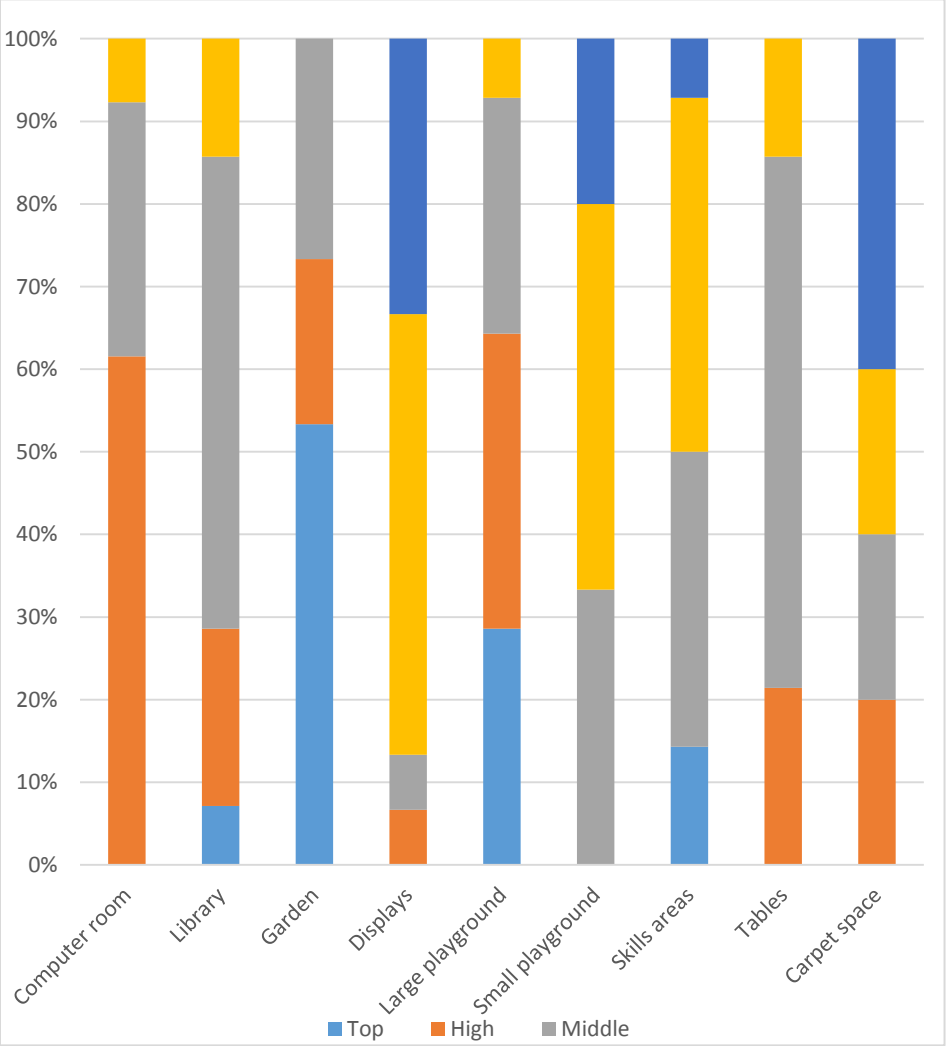


**Figure** 6. Diamond rankings in Year 1, Year 2, Year 3 and Year 4

The library was the only space towards which there was a conflict between boys' and the girls' attitudes during the activity. The diamond rankings revealed that the children find the classroom displays as 'only decorative' and 'not useful'. However, when the displays are placed on the front wall of the classroom, and if they are relevant to the ongoing topic, the children frequently refer to them.

The children in the Nursery and Reception classes consistently expressed their liking of their playground (Figure 7).

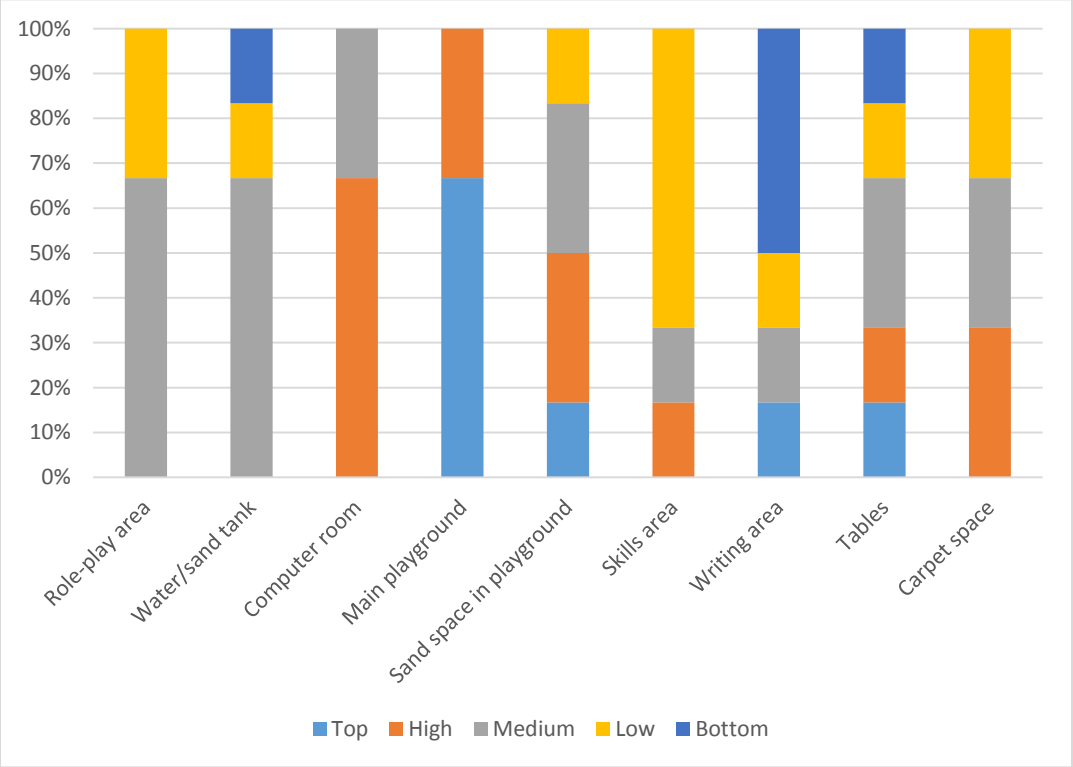


**Figure** 7. Diamond rankings in the Early Years Unit

Like the playground itself, the little sand and stones space in the playground is very popular among the Nursery and Reception class. Amelie, Reception class: 'I love pulling up the buckets on the rope and I love pulling them through the stone twig... I learn to be nice to my friends'. The children in the Early Years Unit preferred the outdoor areas to their classrooms (Figure 7).

Year 1 – Year 4 teachers' diamond rankings revealed that they find the carpet space and the table space are the most effective places for children's learning (Figure 8). There is a considerable preference for the carpet space in the teachers' diamond rankings (75%).

'New learning, focused listening and group discussions happen on the carpet. So it is the most important space', Year 4 teacher

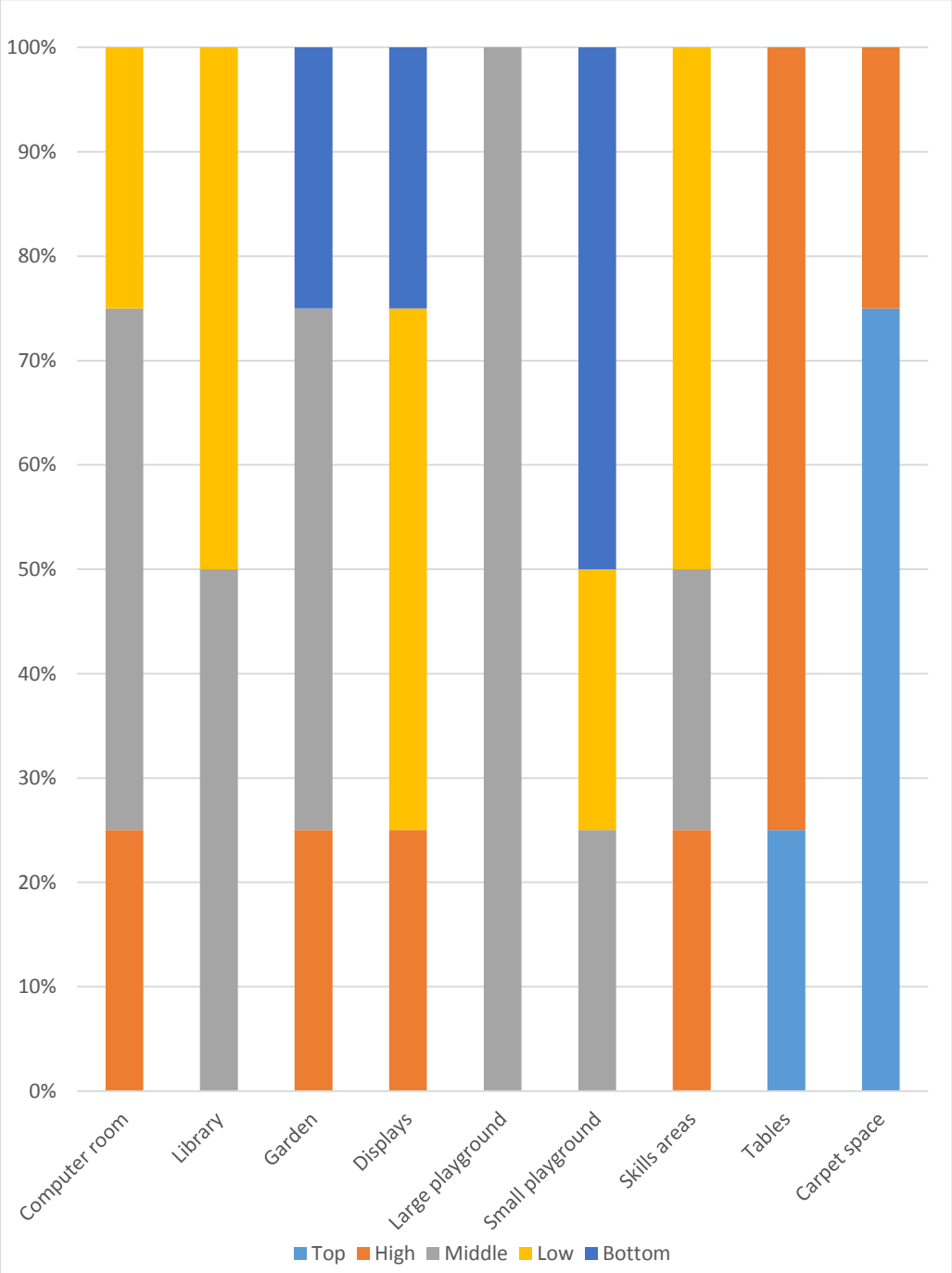


**Figure** 8. Diamond rankings of the teachers of Year 1, Year 2, Year 3 and Year 4

The teachers think that the computer room, classroom displays and small skills areas in the classrooms are more important and effective for learning than the time spent outdoors. However, they still acknowledge the effectiveness of the school garden in terms of science learning and group work. Similarly, the Reception class teachers have positive attitudes to the indoor areas in terms of learning (Figure 9).

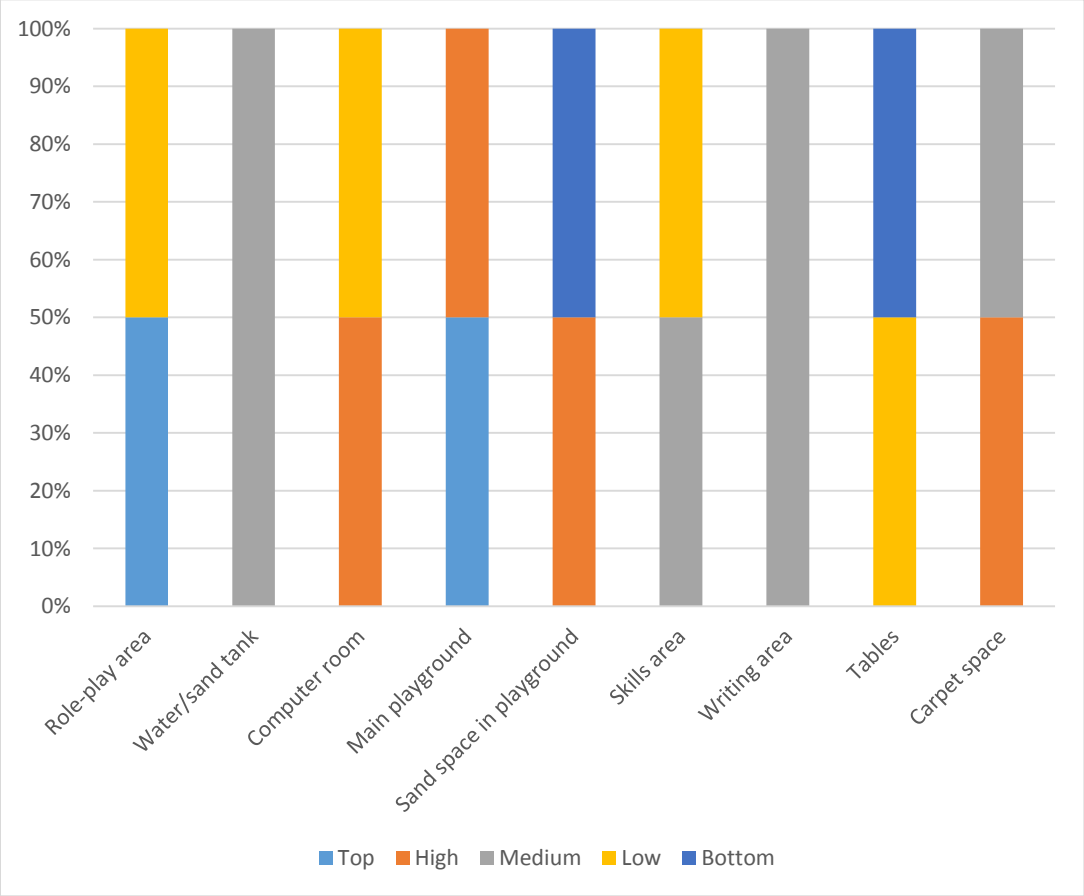


**Figure** 9. Diamond rankings of Reception class teacher and the teacher assistant

The Reception teachers think that the carpet space is very important in terms of whole-class teaching and find that it develops the children's listening and discussion skills. They pointed out the effectiveness of the computer room in terms of learning and research. They think the outdoor area is very effective for learning, especially physical and group-work learning. The Reception class teacher: '...It is good for their holistic development. They choose what to do there, either individually or in groups. Playing there develops their sensory learning'.

The interview with the head teacher of the school revealed interesting points about the costs and future plans regarding the development of the learning environments in the school. The head shared her thoughts about the use of the Specialist Language Class, Community Garden, library space, and recent changes in the Early Years Unit. She explained why the school needed significant changes in the Early Years Unit:

'We had some money to be spent. So I decided to look at every classroom in the school. And because it was a big amount of money.., I asked every member of staff and the governors, and we had walks in the school... We looked at every room, and discussed what was good and what could be improved. As a result of that we decided that the Early Years needed improvement, in terms of what was available there... £30,000 was spent for total refurbishment... we came up with a design'.

The 2012 Ofsted report included points about the lack of learning opportunities for more able children, as well as the fact that the children's writing skills were behind their reading and maths skills: 'I thought there should be a role play area in Early Years, where children could write within that.... Also in the library, we replaced adult-size table and chairs

with child-size furniture, so that a group of children can go there and work with a teaching staff, while others are in the classroom with the class teacher. This created spaces for more abled children too'.

Discussion and Conclusion

This case study confirms that the children's attitudes towards school are highly affected by the changes in school spaces. A well-known review of 400 studies by Hanushek (1997) suggested that school resources had no positive or negative effects on student performance, and that more investment in resources did not necessarily bring positive changes. However, recent studies report different findings. It was anticipated from the review of the literature that the children's and teachers' views towards the learning spaces might not coincide in terms of how they define learning. The results of this case study coincide with the results of an Irish study by Murphy, Marley and Veale (2012), as both studies suggest that the children prefer more hands-on and experiential science learning.

This study supports McCarter and Woolner's findings of teacher's and children's views on the carpet space in classrooms (2011). Children's mostly negative attitudes towards spending time on the carpet are related to the passive, transmissive learning that happens there and they are strongly affected by the physical difficulties of sitting on the carpet for a long time. Sitting quietly on the carpet conflicts with the active nature of the child. Overall, the children do not describe 'learning' as enjoyable and 'fun'. For example, the younger children, especially in Early Years and Year 1 do not think they 'learn' when they do some work in the garden or in the playground, which are, in fact, learning spaces, and are included in the curriculum time.

The results of this case study support the results of the research on the children's attitudes towards IWBs in classrooms by Wall, Higgins and Smith (2005). However, interestingly, a study by Heemsherk, Kuiper and Meijer (2014)revealed no positive or negative relationship between the combined use of interactive whiteboards (IWBs) and virtual learning environments (VLE) and student learning, but shows a positive effect of the former on student motivation.

Previous studies suggest that the availability of different resources and their effective use improve student attainment and achievement in many classes, especially in maths and science lessons (Murillo and Roman, 2011; Steele, Vignoles and Jenkins, 2007). Used together with suitable pedagogical techniques, and supported by educational theories, the physical school environment can improve student learning (Diaz, Nussbaum and Varela, 2015; Sandars et al., 2015). Evident from Uruguay's Plan Ceibal where the 'a laptop for each student' policy was employed, computers are the reality of nearly every classroom today. However, it is unclear how these laptops would improve the quality of education (Cardellino and Leiringer, 2014). As Cuban (2001) suggests, there also needs to be efficient pedagogical changes and transformed and integrated teaching practices in order to effectively use the computer technology in schools. The same approach needs to be taken in Azerbaijan as well; while investing in technology, human resources, educational content, and teaching practices must also be considered. Moreover, technology in the classrooms may decrease the flexibility of the learning environments, because computers and other large technologies are heavy and difficult, sometimes even impossible, to move. It is important for the schools to set out the priorities in adjusting learning spaces.

Three different literature reviews concluded that engaging in gardening in schools improved children's social and learning outcomes (Blair, 2009; Dillon et al, 2003; Williams and Dixon, 2013). Dillon et al (2003) draw evidence from the literature that spending time in garden space improves children's learning, social interaction, and environmental understanding. School gardens are a great way to understand nature, nutrition, healthy food, environmental sustainability, and civic responsibility. Perhaps most importantly, all the curriculum subjects can easily be adapted to be taught in the school garden. Given the children's positive views on the school garden and their favourite activities to do there, effective pedagogical practices can be applied in this learning space.

This case study was successful in eliciting the children's and teachers' attitudes towards different learning spaces in the school. While the majority of educational research focuses on the effects of the learning spaces on educational outcomes and academic results, there is not much literature on children's and teachers' views and ideas about the

schools and learning. Such research can be helpful in understanding the children's and teachers' attitudes towards their own schools. The next may be an actual school design based on the findings of this research.

## Conclusion

Considering the evidence of a country with a leading educational system, Azerbaijan can employ a long-term national strategy that best fits learners' needs. Instead of investing large amounts of money in interactive whiteboards, smart boards, expensive software and computers; firstly the educational priorities should be clarified. Many factors, such as the lack of competent school leaders and teaching staff, the shortage of modern learning materials, and the absence of educational software in Azerbaijani language ought to be considered well before investing in new infrastructure.

However, there are certain lessons to be taken from the British example. First is the right balance of "fun" and "learning", and the fact that spaces can foster positive attitudes towards school. Physical learning environments in the schools directly influence how the children feel and behave. Second is the need to expand learning through outdoor spaces like school and community gardens, especially in urban areas. Since there is so single formula for children's learning, a variety of learning spaces provide an effective base for a variety of teaching and learning practices, such as whole class, group, collaborative, and individual learning. For this reason, flexible and integrated learning environments in the schools are very important. During the diamond rankings, some children mentioned that they feel more comfortable and happier when working with their friends, while some preferred being alone in a quiet part of the classroom. The school spaces ought to meet the needs of all children, and there should be relevant spaces and environment for all to learn.

## Conflict statement

There is no any conflict of interest.

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RESEARCH ARTICLE

# Gender Roles in Azerbaijani-Medium Secondary School Literature Textbooks: An Analysis of Content and Representation

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**Doi Serial** https://doi.org/10.56334/sei/8.10.27

**Keywords** Gender equality, gender inequality school textbooks, the role of textbooks, hidden curriculum

**Abstract**

The aim of this study is to analyze gender roles in Azerbaijani-medium secondary school literature textbooks used in grades 5 to 9, and to find out how gender sensitive and gender responsive these literature textbooks are. The data collection method is quantitative content analysis, involving reviewing literature textbooks. The quantitative analysis considers five categories: the gender and number of authors of textbooks, the gender and number of authors of texts included in the textbooks, the gender and number of the characters and figures in images, and the occupational roles in the texts and gender traits most commonly observed. The results indicate that Azerbaijani-medium literature textbooks do not promote equal gender roles. Men and women are not equally represented in texts, visuals, and in occupational roles. The research recommends conducting research on all textbooks used at school level, analyzing their portrayal of the genders constructing new gender-sensitive textbooks.

**Citation.** Dadashova A. (2025). Gender Roles in Azerbaijani-Medium Secondary School Literature Textbooks: An Analysis of Content and Representation. *Science, Education and Innovations in the Context of Modern Problems*, 8(10), 284–307. https://doi.org/10.56352/sei/8.10.27

**Issue**: https://imcra-az.org/archive/384-science-education-and-innovations-in-the-context-of-modern-problems-issue-10-vol-8-2025.html

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Received: 10.02.2025 | Accepted: 10.07.2025 | Published: 02.08.2025 (available online)

## Introduction

Education is an essential human right and a powerful component in the sustainable development of societies and countries. Providing education to students, regardless of their gender, can help reduce social boundaries and poverty because education is strongly correlated with all development goals. "Education is the route to economic prosperity, the key to scientific and technological advancement, the means to combat unemployment, the foundation of social equity, and the spread of political socialization and cultural vitality" (Chimombo, 2005).

However, gender discrimination is an obstacle to girls' education. Although most of the world's labor consists of women, they are still discriminated against and stereotypes persist, such as the idea of women as home-loving mothers who raise children, take care of their families, do housework, and carry out other domestic responsibilities. Coming from Astara, a rural region of Azerbaijan which borders Iran, far from Azerbaijan's capital city, I have personally witnessed the abuse of women's rights in my society. In my community, parents treated boys and girls differently. There was always a sense of favoritism toward boys, and girls were never expected to be educated or to take on leadership roles.

People in rural areas of Azerbaijan are typically very conservative and often use certain interpretations of religion as a tool to oppress women and girls.

Many girls in my village desired to study, but their parents forbade it. Girls' rights to education are still ignored, either by their parents or by society. In rural parts of Azerbaijan, in some cases, girls are not allowed to go school and are sometimes forced to get married early. Furthermore, women are represented in stereotyped gender roles. These roles are present in educational and learning materials as well. As in other male-dominated countries, women's education and employment are not supported by society, especially in underdeveloped rural regions

### 1.1. Context of the Research

Textbooks have an important role in influencing schoolchildren's personalities and their perceptions of society. That is why the content of school textbooks, and the information these textbooks transmit to our youngest citizens is very influential (Evans & Davies, 2000). Secondary school textbooks play a significant role in the process of internalizing the norms and ideologies of a society. The presentation of men and women in these textbooks helps to form the attitudes of the students and their beliefs about gender roles in society. If, in presenting gender roles, textbooks transmit prejudiced and discriminatory language, they will gradually shape a student's understanding of gender roles. Literature textbooks might incorporate the biased gender roles seen in Azerbaijani society. Both the learning materials, and the biased environment may affect girls' behavior, as their roles in society are limited. . As Chapman (2002) states, educators should be mindful about the biased information that they are transmitting to their students via "socialization messages, inequitable division of special education services, sexist texts and materials, and unbalanced time and types of attention spent on boys and girls in the classroom".

Little research has been conducted on the gender roles in textbooks, particularly secondary school textbooks. In the Azerbaijani context, since the application of the new national curriculum, no intensive and systematic research has been carried out to identify how gender roles are presented in secondary school textbooks.

The aim of this research is to analyze gender roles in secondary school literature textbooks. I chose specifically literature textbooks because the nation's culture, traditions, and attitudes are most clearly demonstrated in history and literature textbooks. In this research I will analyze textbooks used in grades 5 to 9, and will identify how gender sensitive and responsive secondary school literature textbooks are in Azerbaijan. I will also determine how we can develop gender sensitive textbooks that improve girls' educational experiences and outcomes.

#### 1.1.1 Azerbaijan as a country and its Education System

Azerbaijan is a country located in the South Caucasus region of Eurasia at the crossroads of Eastern Europe and Western Asia. The country has a population of 992 million (The World Population Review, 2018). In 1991, Azerbaijan became an independent Republic after being under the dominance of the Soviet Union for seventy years. After gaining independence, radical changes happened in the country's politics, economy, and society. One of the biggest challenges during the transition period for Azerbaijan was the undeclared armed conflict with Armenia over the territory of Nagorno-Karabakh; as a result of this conflict, about 20 percent of Azerbaijani lands are now occupied and more than 1 million people, about 13 percent of the whole population became refugees and settled in Baku and other regions of Azerbaijan. In 1995, a ceasefire agreement was established between Armenia and Azerbaijan (de Waal, 2013).

During the Soviet era, the quality of Azerbaijani Education was quite high, and illiteracy was eliminated. The majority of people could read and write. Schools were established even in the rural villages of Azerbaijan. During the transition period, as in other sectors, the education sector also faced many challenges. The most important one was the necessity of making significant changes in the curricula with reference to national values. For this, the biggest obstacle was a mass transition from the Cyrillic alphabet to the Latin script. There was a need to print textbooks and other educational materials in the Latin alphabet (MOE, 2008). In the first years of independence, these materials were translated from former Soviet books and because of that, there were no obvious changes in the content of textbooks. Enrolment rates remained high. However, the quality of education has decreased due to a lack of governmental investment in education.

To address the above challenges, the Government established and commended an in depth Education Reform Program in 1999. In 2003, the Government determined new priorities and clear-cut directions for the improvement of the education sector in the draft Ten-Year Education Reform Strategy (2003-2013), prepared by the Ministry of Education. For this purpose, the Ministry of Education designed a three-phase program titled the Education Sector Development Project (ESDP) with the sponsorship of the World Bank (World Bank, 2010). Detailed information about the Education system of the Republic of Azerbaijan will be given in Chapter 2.

### 1.2 Description of the research

This study focuses on Azerbaijani literature textbooks. In this research I will analyze textbooks used in grades 5 to 9 and will identify firstly how gender sensitive and responsive secondary school literature textbooks are in Azerbaijan and secondly, how we can develop gender sensitive textbooks that improve girls' educational experiences and outcomes. During the analysis process, the following specific questions will be addressed.

1. What is the ratio of male characters to female characters in texts and images? Is there a ratio difference in the texts?

2. What roles are assigned to the characters in public and domestic settings?

3. To what extent are men/women described in domestic roles?

4. What is the visual representation of men and women?

5. How gender sensitive and responsive are secondary school literature textbooks in Azerbaijan?

6. How can we develop a gender sensitive curriculum and textbooks that improve girls' educational experiences and outcomes in Azerbaijan?

I chose quantitative content analysis and qualitative thematic analysis methods to analyze the research questions. For this study five literature textbooks used in grades 5 to 9 were selected and analyzed quantitatively in order to establish how many male and female roles exist in the texts, what roles are assigned to women and men, and how women and men are represented. After collecting the quantitative data, qualitative thematic analysis was carried out to determine themes in men's and women's gender roles. In the summary of the findings, the gender sensitivity and gender responsiveness of literature textbooks will be analyzed. The discussion will focus on summaries of both past and present studies. Furthermore, the relevance of the current study for the Azerbaijani context will be made explicit. Based on the findings and discussion, in conclusion, I will provide suggestions for future research and recommendations for policy makers, curriculum developers, and teachers.

### 1.3 Significance of the Research

The analysis of the textbooks is one of broadly analyzed issues. Textbooks are invaluable because, either directly or indirectly, they transfer national values, norms, and traditions. However, sometimes these values and norms lower girls' and women's position in society. It is essential to reform and modify the curriculum, and more specifically to revise textbooks in order to make them gender sensitive so that students of both genders can get an equal education. The results of the study will contribute to the development of gender-awareness of teachers, authors, and textbook publishers. Further studies can investigate gender representation in textbooks for other subjects and the impact of other factors, such as the school environment and school staff's attitudes towards girls, with a particular focus on the attitudes held by teachers.

### 1.4 Limitations of the Study

The limitations are: the findings are not suitable for generalization since this investigation concerns only one school subject and only the compulsory part of general secondary education. Due to time constraints, it was possible to

analyze only the literature textbooks used at the compulsory level of secondary school education (from grades 5 to 9). High school literature textbooks (from 10th to 11th grades) are not analyzed. Therefore, it is unclear whether this series is exceptional or representative in terms of the portrayals of females and males in the secondary school textbooks used in Azerbaijan.

## Literature Review

2. Gender equality and gender equality in education policies at both national and international level

2.1 International Aims of gender equality according to the United Nations

Gender equality is a core of element social justice and inclusivity based on the values and practices of Human Rights. Regardless of differences among people, including gender differences, everyone should be treated equally.

Gender equality means accepting and valuing equally the differences between women and men and ensuring the equal visibility, empowerment, and participation of both sexes in all spheres of public and private life. However, the reality of the school environment does not always reflect the aims of gender equality presented in laws and curricula . Educational materials may still reinforce traditional notions of men's and women's roles in society, such as that boys are the reason for disturbance in the classroom, excel at mathematics and sciences, but are less successful in languages (Syrjäläinen & Kujala 2010, 35) (Council of Europe, 1998: 7-8).

In order to protect women's rights and gender equality, different international laws and treaties have been established in the world, such as the Universal Declaration of Human Rights, the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), the Convention on the Rights of the Child (CRC), the Declaration and Program of Action of the World Conference on Human Rights, and the Beijing Declaration.

Historically, women have suffered more from gender inequalities compared to men in society. Gender inequality creates boundaries on both individual and societal development. For individuals, inequalities related to gender may trigger low self-esteem, frustrations, and resentment. At the same time, it hinders boys and girls from achieving their full potential and restricts their roles in society and family because of biased expectations. On a community and societal scale, gender inequalities impede economic growth, social cohesion, and social justice. Gender inequalities in the family and the broader society also provide negative models for children and young people of 'legitimate' ways of treating others unfairly, of exploiting them, and depriving them of their human rights.

The goals of gender equality presented in legislation and curricula do not always correspond with the reality of the school environment. Educational materials may still foster traditional stereotyped roles of men and women in society, such as that boys are violent in the classroom, are good at mathematics and sciences but are not good at language learning (Kujanpää, 2015).

### 2.2. Gender Equality in Azerbaijan and its Education

Women in Azerbaijan constitute 51.2% of the whole population. They face many difficulties in Azerbaijani society. The Constitution of Azerbaijan and other laws and regulations state that men and women have equal rights. However, when it comes to reality, due to a "lack of special legal, economic and social protection mechanisms", women's rights in Azerbaijani society are abused and are not protected efficiently.

Education is one of the priorities of social development and it is the target of gender mainstreaming policy. Azerbaijan is one of the countries which has ratified "the UN Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) on the eve of the Fourth World Conference on Women in Beijing in 1995". The Azerbaijani government also follows the gender mainstreaming strategy in the implementation of policies, plans of action, and projects. Despite the activities initiated with application of gender mainstreaming policy, there are

still many issues related to the quality of education, which has a negative impact on education. At all levels of education, especially at primary and secondary levels, the quality of education has declined. Girls' dropout rate has increased due to families' poverty (the State Committee on Women's Problems of the Republic of Azerbaijan, 2004).

There is a need to develop gender education and gender research, to widen awareness of the impact of gender issues, to improve the quality of education, and to eliminate the impact of gender discrimination to girl's competencies and qualifications.

In addition, gender-biased educational materials have a negative impact on the implementation of the gender mainstreaming strategy. In particular, the literature textbooks of Azerbaijani-medium secondary schools contain a lot of biased information. Although the majority of literature textbook authors are women, the texts in these text books are mainly written by men.

Referring to Article 17 of the Education Law of the Republic of Azerbaijan, the education system consists of several levels, including preschool, general, primary, basic, secondary, primary/ secondary vocational, and higher (baccalaureate, master's degree, doctorate (MOE, 2009).

The current Azerbaijani education system is established based on national and universal values. According to the Constitution of the Azerbaijan Republic (section 2, chapter 3, article 42), all citizens – regardless of gender, age, social economic status, religion, ethnicity, and race – have the right to free compulsory primary and secondary education. Azerbaijani School Education consists of three stages: primary (grades 1-4), general secondary (grades 5-9), and full secondary education (grades 9-11). Attending school until grade 9 is obligatory. Progressing to the other stages of education is the individual's own choice Apart from school education, there are also vocational schools, community colleges, and universities (General Education Concept (National Curriculum in Azerbaijan Republic, 2006).

The aim of Azerbaijan's national curriculum is to develop a dual learning environment for all students which includes common development, develops interests, improves self-esteem, is outcome oriented, is student-oriented, and ensures integration. (General Education Concept (National Curriculum) in Azerbaijan Republic, 2006). The Azerbaijani constitution and the international law stipulate that everyone has the right to education regardless of their gender, social status, and religion, legal, or social and cultural issues of their communities. However, without considering the imbalances that differences in gender, religion, social and economic status, power differences have created in society, it is difficult to provide equal education to everyone.

Azerbaijan is one of the countries that has ratified UN treaties and declarations. The Azerbaijani government has also ratified "the UN Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) on the eve of the Fourth World Conference on Women in Beijing in 1995".

Sustainable Development Goal (SDG) 4, which aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all", reflects the global recognition of the need to address gender inequality in education. Realizing these commitments will require tackling the many obstacles facing girls, including discriminatory social norms, negative school environments, and concerns around safety and access. Despite the fact that the Azerbaijani government has ratified International Laws and amended national laws, there are still gaps in the implementation these laws and regulations because, in order to express their concerns, women's groups need support from international institutions to be heard by the government. (Aliyeva, 2011). Some women have a low level of education, and they are not able to express their problems to any authoritative agencies. That is why women either continue to live with the problems or they involve family members in finding a solution. However, in most cases, the family members' solutions are not successful. Azerbaijani society is patriarchal, male dominant, and in that sense, women are second-rate human beings who should only be recognized in relation to men. However, cultural stereotypes, which have passed from generation to generation create obstacles and hinder the implementation of the principles and values of the National Curriculum and results in girls' dropping out of education. A study was carried out in 2001 by UNICEF and the Ministry of Education of Azerbaijan. The purpose of this report was to investigate the reasons for girls dropping out of education in Azerbaijan and to provide advice on how to solve these issues with the support of the Ministry of Education and a "UNICEF Project Plan of Action". The report contains information

about a workshop organized by UNICEF "for the Ministry of Education officials, senior educators, NGOs on the use of Participatory Learning and Action for girls' education activities". Many organizations and individuals took an active part in the collection of data for the development of the report. According to the report prepared by UNICEF and the Ministry of Education in 2001, internationally, the reasons that caused girls' dropout, poor participation, and low-quality performance are mainly divided into 4 categories:

1) Financial difficulties: these can have negative consequences for both genders, but they have a greater impact on girls than they do on boys. Although public schools are free of charge, students from low income families have difficulties affording other expenses such as clothes and stationary. Because of this, students from poor families drop out of education. Sometimes the children become involved in child labor or stay at home helping their parents with housework.
2) It is believed that girls are easily exposed to "physical and cultural dangers". Parents worry about rape and harassment of their daughters by their male peers or male teachers. Although there are no accurate statistics of such incidents, it happens. In order to protect their daughters, and, most importantly, family honor, parents decide not to allow their daughters to go to school. Family honor is very important in Azerbaijani culture and girls and women carry this responsibility on their shoulders.
3) A false common assumption is that boys are more intelligent than girls. This assumption is common in most parts of the world but is particularly widespread in Eastern and Asian cultures. Parents think that it is better to support boys' education rather than girls' because boys are much smarter than girls.
4) Early marriage is also one of the reasons of dropout. Families either hold the belief that girls should marry young because of religion or because of cultural mentality (UNICEF, 2001) According to an amendment to Article 10 of the Family Code of the Republic of Azerbaijan made in 2011, the legal marriage age for both boys and girls has increased from 17 to 18. However, in some cases, such as if parents are ill or one partner lives abroad, "the minimum age of marriage age can be reduced by one year if permission is given by the local executive power. Despite the change in the law, people in rural areas knowingly or unknowingly break the law and get married young with a religious marriage certificate which is called "kebin". These facts are hidden by relatives in most cases (The State Committee of Family and Children, 2011).

According to the Azerbaijani constitution, school is obligatory until grade 9. Attending grades 10 and 11 is optional. After finishing grade, 9 students take an examination. Because it is not compulsory to continue, many parents can easily make their daughters leave school at this stage. In Azerbaijan, the school environment is not sensitive to gender. Although everyone has the right to get an education, the school administration, teachers' attitudes and textbooks are neither gender sensitive nor gender neutral.

In addition, despite the clear evidence of gender bias in learning materials, specifically textbooks, no policy initiatives have been implemented. Although Azerbaijani textbooks have recently changed, gender has not considered in textbook policy. In the 3rd Section of the textbook policy, which is about demands for textbook content, there is an item which states that textbooks should not contain national religious, racial and political discrimination or improved information"(MOE, 2006). Gender is not included in the specifications of textbook content.

### 2.3. Role of textbooks

Textbooks play a major role in the development of individuals and of the whole society. All over the world, school textbooks supply students with beneficial information about how cultural knowledge is approved, delivered to students, and assessed in schools. In the majority of countries, textbooks are developed based on "state-approved syllabi and curricula". In this context, they reflect the knowledge and values determined by a given society, especially its political class. They are also essential and suitable for passing values on to the next generation (Lässig, 2009). Printed textbooks are still the main sources of knowledge and information in rural parts of the countries. In the Azerbaijani context, the centralized exams are arranged based on the content of the textbooks provided to schools. That is why textbooks are an essential aid to frame the knowledge in a given discipline. In the development of knowledge in various subjects, the evaluation and determination of "the content, visuals and exercises of the textbooks from a gender perspective" is a key step (Srivastava, 2014). Textbooks play an important role in the students' development. According to textbook analysis done in other countries, school textbooks and teaching materials have a great impact in forming people's notions of being a man or a woman. However, the way gender is

presented is problematic in two ways. First, text books portray very tough, brutal roles such as fighters, warriors, and thus create stereotypes. Second, women are presented as being at a disadvantage in most cases. They are presented in dependent, subordinate positions. For example, even though textbooks have constantly been reviewed over the years, they still present men and women as having different stereotypical gender roles. Women are predominantly portrayed undertaking domestic activities (Bursuc, 2013).

Gender bias in textbooks impacts students in a hidden way. Students spend most of their time with textbooks. Teachers prepare their lessons using textbooks. Exam questions are prepared based on textbooks. That is why the role of textbooks and their impact are unavoidable. As Sadker and Zittleman (2007) state, "students spend as much as 80 to 95 percent of classroom time using textbooks and...teachers make a majority of their instructional decisions based on the textbook" (As quoted in Blumberg, 2008, p 6). That is why textbooks with a gender bias cause fundamental hidden barriers to gender equity in education. According to Blumberg, "textbooks occupy 80% of classroom time". Therefore, gender bias in textbooks has the impact of lowering girls' accomplishments in schools, especially in schools in underdeveloped countries.

Textbooks are a useful tool for expanding education to many people because they are accessible. According Brugelles and Cromer, "Textbooks are still the cheapest of available media, and they are easy to carry and use" (2009).

Textbooks stand at the heart of the educational enterprise. Teachers rely on them to set the parameters of instruction and to impart basic educational content. Students' schoolwork often begins (and in some schools ends) with the textbook. Texts constitute the basis of school knowledge, particularly in Third World countries where there is a chronic shortage of qualified teachers.

Besides providing knowledge, textbooks play an important role in the development of society. According to Brugeilles & Cromer, 2008 (as cited Bruillard, 2011) "textbooks can become powerful levers of social change in propagating universal values". Textbooks reflect the changes which happen in the society. "Students- consciously or unconsciously –use, absorb, and interpret the social economic and racial realities present in photographs, cartoons or pictures in their textbook" (as Discourse, 2009). That is why the information provided in textbooks should present the society in a precise way with all its diversity. If the information given in textbooks do not consider diversity and social justice, they can strengthen the existing biases and could lead to various types of social discrimination. "In their interpretation and presentation of knowledge, textbooks are (more or less consciously and deliberately) a vehicle for norms, values and models of social behavior through the representations that they contain" ( Brugeilles & Cromer, 2009). Therefore, textbook development should be one of the priorities in the education policy of any government.

Wikigender is a global online platform which connects policymakers from both developed and developing countries to look for strategies to solve gender issues and foster gender equality. The aim of this platform is to bring experts together from all around the world to exchange their knowledge and experience on issues, particularly gender issues. On 16-20 January 2017, with the support of UNESCO, Wikigender hosted an online discussion on the topic "Addressing gender stereotypes in the classroom: how to achieve a conducive environment for adolescent girls' learning". The online discussion started with a presentation of the findings from "Textbooks pave the way to sustainable development" prepared by the UNESCO Global Education Monitoring (GEM) Report. The findings indicated that from the 1950s to 2011, secondary school textbooks failed address concerns about "sustainable development, including gender equality". As a result of the discussion, it is governments must reassess their textbooks urgently to challenge negative gender stereotypes. Examples include using neutral and inclusive language or having gender equitable illustrations in textbooks, and participants shared useful resources for policy makers and textbooks revisers.

### 2.4. Textbooks as a hidden curriculum

The theory of the hidden curriculum is one of the mostly commonly used theories in textbook analysis. The concept of "hidden curriculum appeared in education in the beginning of the 20th century. A hidden curriculum contains "both intended and unintended consequences of schooling, both official and unofficial settings of learning, and both

academic and nonacademic outcomes". The hidden curriculum can be used for both "official" and "none official" educational settings. (Novosel, 2015). "A hidden curriculum consists of those learning states of setting which are either intended or unintended but not openly acknowledged to the learners in the setting unless the learners are aware of them" (Martin, 2017). Hidden curricula mostly contain "textbooks, teacher's use of language, standard learning activities, and the social structure of the classroom, among others" (Novosel, 2015).

The hidden curriculum refers to the implicit knowledge learned at school regardless of the goals set by official curricula or legislation (Syrjäläinen & Kujala 2010, 26- 27). Due to the hidden curriculum, pupils are taught to act in a certain way at school and because of this the pupils' experiences may differ from one another. The stereotypical notions of the gender specific roles are further reinforced, and this creates a continuum in the society. Literature textbooks might have an influential impact given the hidden curriculum, as it is applicable in any educational setting and it will either directly or indirectly affect students' attitudes and behaviors. In Azerbaijani language, literature is defined in this way: Literature is a subject that reflects the human's feelings, thoughts, and desires and invites people to consider morality and to adopt high moral standards. In literary samples, the writer expresses feelings and thoughts through artistic examples to people. In such examples, life events are presented to the readers in a figurative way. This means that the events in the texts are reflected not as they really are, but as they are in the writer's imagination (Suleymanova, Bagirova, Muradova, 2016). In this case, literature textbooks could have a great impact on students' attitudes and behaviors.

### 2.5. Gender in Textbooks

Many research studies have focused on gender roles in various countries. The majority of researchers found that in most cases, textbooks present male characters (both boys and men) more than females (women and girls). Their experiences were shown as cultural norms (Kereszty, 2009).

Adnan Batinah conducted a study titled "Analysis of Representation in Pre- Intermediate Market Leader: Business English Practice File " in Sohar University in Oman. He used content analysis to evaluate gender portrayal in 3 categories (gender visibility, gender firstness and occupational roles) in one of the textbooks used for teaching business English at Sohar University. The research indicates that in the Pre-Intermediate Market Leader Business English book, there is not a definite gender preference for males and gender equity is more or less accomplished . Interestingly, compared to males, females are represented in varied occupational roles whereas males are represented only in stereotypically male occupations. However, in terms of firstness, males occur before females in the textbook. According to Adnan Batinah's assessment of textbooks, there has been an improvement in the representation of genders in textbooks and there has been a positive change in women's occupational roles. However, there is still a need to develop gender representation further.

Two Iranian scholars, Gharbavi and Mousavi, carried out research\ titled "A Content Analysis of Textbooks: Investigating Gender Bias as a Social Prominence in Iranian High School English Textbooks". The aim of this research was to analyze four English textbooks currently used in Iranian high schools in terms of the visibility and occupational roles of male and female characters both in texts and images. The analysis showed a serious disparity between the occurrence of male and female characters in the texts. Furthermore, there are still high levels of gender inequality in the textbooks used in Iranian high schools.

Another study, conducted by Khomeriki, Javakhishvili, & Abramishvili (2012) is called "The Issue of Gender Equity while Teaching Social Sciences" (as cited Tsiklauri, M, Gender in Georgian Secondary Education, 2012). The aim of the research was to carry out gender analysis of textbooks, specifically those used in History and Civic Education, to establish whether the given textbooks have issues with gender equity and whether they presented the genders as equal. The authors also analyzed the role of these textbooks for establishing "the positive attitude towards gender equity" (Khomeriki, Javakhishvili, & Abramishvili, 2012). Quantitative analysis of the textbooks showed that females are represented much less than males. The qualitative analysis shows that the textbooks, especially the history textbooks, contain quite strong gender stereotypes. The textbooks do not support the improvement of gender equity. The textbooks are not able to make a positive impact on "the changes of social and cultural models that support the inferiority of female sex and the advantage of the male" (Khomeriki, Javakhishvili, & Abramishvili, 2012).

Othman, Hamid, Dato'Hj, Yasin, Keong and Jaludin, (2012) conducted research titled "Gender Images in Selected Malaysian School Textbooks: A Frequency Analysis.". They analyzed the frequency of images in selected Malaysian school textbooks to examine gender portrayal. A series of four Malaysian English textbooks, 3 primary textbooks and 1 lower secondary textbook, were randomly chosen for analysis. The research results reveal male dominance in the textbooks. Considering the representation of characters in accordance with "their social, professional and political roles", gender discrimination in favor of male characters can be seen. Female characters are seen as less important in terms of the roles presented and of their positive impact on the society in general.

Hall conducted a study titled "Gender Representation in Current EFL Textbooks in Iranian Secondary Schools". This study investigated gender portrayal in modern EFL textbooks titled Right Path to English I and II that have been developed for Iranian schools and are used in a mandatory course in Iranian secondary schools. As English language teaching and learning in Iran is based on "a rigidly anti-imperialist ideology alongside indigenization and localization" (Borjian, 2013, p.13), the education programs established and regulated by the government reflect the cultural and religious beliefs of the country. Comparing the findings of previous research investigating the same textbooks, there were positive improvements in some areas of the textbooks. However, there is the need for further development to ensure equitable treatment of both genders.

Law and Chan, (2004) conducted research titled "Gender role stereotyping in Hong Kong's primary school Chinese language subject textbooks". The findings showed that images in famous Chinese language textbooks used in in Hong Kong's primary schools are giving powerful and biased messages about gender variation and gender inequality to students. Overall, females are represented less than males, both in individual images and as main characters. Analysis of the representation of the main characters shows that females are more visible in domestic contexts whilst males are more dominant in public settings. Women are mostly represented as doing household activities. Furthermore, compared to males, females are portrayed in more limited and positions and occupations with inferior salaries.

Kahveci (2010) conducted a study titled "Quantitative analysis of science and chemistry textbooks for indicators of reform". In this study, thematic and quantitative analyses were used to investigate the efficiency of Turkish chemistry and science textbooks . The books were analyzed based on 4 themes: gender equity, questioning level, science vocabulary load, and readability. The findings indicate that the textbooks have a biased representation of gender. There was not enough evidence in the textbooks to be able to state that they are gender equitable and inquiry-based. The quantitative approach employed for evaluation contrasts with a more interpretive approach and has the potential in depicting textbook profiles in a more reliable way, complementing the commonly employed qualitative procedures.

Chick's research, titled "Gender Balance in K-12 American textbooks" revealed that the number of males in textbooks was higher than that of females at all school levels in both content and images. However, the study found that history textbooks had more females than there had been in previous editions and since the publication of the National History Standards. However, there was the same percentage of images of males, reinforcing the lack of change in the status of women in this textbook.

To investigate why girls drop out of school, , UNICEF, MOE, with the support of other government organizations, analyzed the causes from different perspectives, including textbook analysis. They randomly chose one textbook from primary level, Grade 2 Reading, and discovered that girls do not play an important role even in textbooks. Girls are presented mostly in domestic settings as parents or siblings. In public roles, they are represented as doctors or nurses.. Men, however, are portrayed in higher ranked positions such as leaders, presidents, kings, heroes, problem solvers, and life savers. Women and girls play subordinate roles.

## Methodology

In the methodology chapter, the research questions, research tools, data, and methods for analyzing the data will be discussed in detail. For this study, I conducted quantitative content analysis and qualitative thematic analysis. With the help of quantitative content analysis, the number of male and female characters and their roles in texts were

examined and categorized. With thematic analysis, gender roles are grouped in themes, namely themes in male gender roles and female gender roles.

### 3.1 Research Questions and Hypothesis

The aim of this study is to examine gender roles in Azerbaijani secondary school literature textbooks used from grades 5 to 9. Based on previous research analyzing gender roles, the specific research questions investigate how gender roles are described in literature textbooks, and are as follows:

1. What is the ratio of male characters to female characters in texts and images? Is there a ratio difference in the texts?
2. What roles and traits are assigned to the characters in public and domestic settings?
3. To what extent are men/women depicted in domestic roles?
4. What is the visual representation of men and women?
5. How gender sensitive and responsive are secondary school literature textbooks in Azerbaijan?
6. How can we develop a gender sensitive curriculum and textbooks that improve girls' educational experiences and outcomes in Azerbaijan?

Although many countries and international organizations are tackling gender stereotypes and accomplishing equal representation of men and women in textbooks, men and women are still treated differently and unequally in many school textbooks. The hypothesis of this study is that gender portrayal and gender roles in Literature textbooks published in Azerbaijan do not encourage progress towards gender equality.

### 3.2 Methodology

Both quantitative and qualitative approaches for collecting and interpreting the data were used. In the first stage, quantitative content analysis was used to calculate the relative frequency of pictures, illustrations, and linguistic features representing males and females. The relative frequency of the occurrences was calculated. Content analysis was used to analyze the items in context. It helped to interpret the quantitative results. The analysis focuses on the authentic pictures and illustrations. The selection of visual materials was based on whether they are gender-marked or gender-unmarked which is a matter of subjectivity. However, pictures which displayed characters with unidentified gender were considered as gender-unmarked and were not taken into consideration.

In the second stage, qualitative thematic analysis was conducted and gender roles were put into themes: themes in women's gender Roles and themes in men's gender roles.

### 3.3. Selection of Data

For this research, five literature books were analyzed. These books were analyzed based on two main criteria: the people who involved in the improvement and production process and the authentic content. The texts vary based on their literary genres and have a wide range of themes and topics such as family, education, patriotism, heroism, honesty, goodness, nature, and country. The diversity of themes and topics was useful in investigating gender roles in literature textbooks in a more authentic way.

In textbooks, the tasks focus on the following skills: reading comprehension, narrating, and writing essays based on given topics. Each topic was supported by written texts and illustrations. Only the text texts and illustrations which have gender roles were analyzed since the research focuses on gender roles in textbooks. However, information about writing and poetry genres and texts about gender-neutral topics were not analyzed, as they are very general and this kind of gender-neutral information cannot contribute to this study. Texts were analyzed with quantitative content analysis in three categories: gender visibility, occupational and domestic roles, and gender attributes. Quantitative content analysis was used to calculate the number of males and females involved in the literature textbook writing team and the number of male and female characters in both texts and visuals.. Furthermore, the total number of

domestic and occupational roles connected with males and females in textbooks was analyzed. Finally, the personality attributes for both men and women were grouped and examples from texts and images were provided. In this study, the procedures were done in several steps. In the first step, literature textbooks were examined and the number of male and female authors and characters in texts and visuals were counted. Then, the findings were represented in tables along with in depth analysis. The next step involved investigation of the occupational and domestic roles of male and female characters. In the final step, the personality attributes of male and female characters were analyzed and grouped and then qualitative thematic analysis was conducted. Finally, gender roles were grouped according to themes: themes in women's gender roles and themes in men's gender roles.

In Azerbaijan, textbook publication is centralized. As there are two sectors in Azerbaijani schools, textbooks are published in two languages: Azerbaijani and Russian. The textbooks used in these two sectors have different texts, content, and authors. Textbook policy is under the control of the Ministry of Education, as well as its relevant structures, academic institutions, private organizations, and public bodies. The textbook policy conforms with the Constitution of the Republic of Azerbaijan, Education Law, and relevant legal acts of the Republic of Azerbaijan, as well as the textbook policy of the education system (MOE, 2006).

For analysis, secondary school literature books used from 5th grade to 9th grade were selected to investigate gender roles. Literature books were selected for analysis because literature reflects the cultural values, the history, and the social, political, and economic environment of a nation. Literature is an artistic subject that reflects society's feelings, thoughts, and desires, and invites people to consider morality and adopt high moral standards. After ninth grade, attending school is not obligatory. Students may leave school, go to community colleges, or may decide to continue their studies until eleventh grade.

## Findings

### 4.1. Gender and Number of Authors

In the first stage, the quantitative results are presented based on two criteria: firstly, the number staff involved in textbook development, including production staff and authors of texts, and secondly the number of characters in texts, images, and the number of male and female characters in domestic and occupational roles. Each textbook was analyzed considering the gender of the authors of the texts, the number of males and females both in texts and images, and the occupational and domestic roles and personality attributes associated with males and females.

Based on the analysis which is shown in Table 1, 43 people were involved in the writing team of literature textbooks used in grades 5 to 9. 23 of them are men and 20 of them are women. It is important to provide the criteria of number of textbook production staff and authors in order to show the contrast. Although textbook authors are mainly women, the included in textbooks are mostly written by men, meaning that female textbook writers did not consider gender equality when considering which texts to include in textbooks.

| Gender | Authors | Editors | Proof Readers | Designers | Picture Artists | Total |
|---|---|---|---|---|---|---|
| | | | | | | 43 |
| Female | 11 | 4 | 3 | 2 | 0 | 20 |
| Male | 6 | 8 | 2 | 2 | 5 | 23 |

**Table 1. Total personnel involved in Literature textbooks production (5th-9th grades)**

The textbooks authors differ from text authors. Literature textbooks consist of different texts in various genres written by different authors. Altogether, there are 198 texts in the books used from grades 5 to 9. For this study, only 161 of them were analyzed because the rest of the texts are gender neutral and about topics such as nature, the motherland

(Azerbaijan), moral values, and the expression of moral values through the roles of animals or plants. Only six of the authors of texts (4%) are women. 28 of the texts (17%) were written by unknown authors, and 127 (79%) of the authors are male.

| Gender | Number | % |
|---|---|---|
| Female | 6 | 4 |
| Male | 127 | 79 |

**Table 2. Number of authors of texts within textbooks**

4.1.1. Gender and Number of Characters in Texts

Characters were analyzed based on the number of texts and visuals they appeared in. There are 479 characters in the texts for students in grades 5 to 9. 365 of them are male and 114 are female. Since in the Azerbaijani language pronouns are not classified based on gender, we can differentiate genders according to their names and their images in texts. In the Azerbaijani language, the third person singular is "O" and refers to 3 genders. "O" translates into English as "she", "he", and "it".

| Mode of Presentation | Grades 5-9 | |
|---|---|---|
| Female | 114 | 24% |
| Male | 365 | 76% |

**Table 3. Male and Female characters in texts**

Table 3 indicates the overall gender ratio in all textbooks. 76% of the characters in the texts are male. The ratio of males to females is higher than 3:1. This table provides a response to the first question of the study. Overall, it is obvious that males are shown in texts more than 3 times as often as females.

| Grade | Male | Female | Total | Male % | Female % |
|---|---|---|---|---|---|
| Fifth | 83 | 22 | 105 | 79 | 21 |
| Sixth | 67 | 28 | 95 | 71 | 29 |
| Seventh | 64 | 22 | 86 | 74 | 26 |
| Eighth | 75 | 14 | 89 | 84 | 16 |
| Ninth | 76 | 28 | 104 | 73 | 27 |

**Table 4. Gender Ratio per Textbook**

Table 4 shows the number of males and females as both raw numbers and percentages per textbook. The percentage of male characters is higher than that of female ones. The results from the 8th grade text book are particularly striking; 84% of the characters are male and only 16% are female.

In the fifth grade literature text book, there are proportionally more male than female characters. 79% of all characters are male and only 21% are female. Indeed, in all five textbooks, female characters are presented less frequently than male characters. The biggest difference in proportions can be seen in the eighth grade literature textbook, but in almost all textbooks, female characters represent only around a quarter of all characters.

### 4.1.2. Images in textbooks

Images in textbooks represent photos of writers and poets, but there are also photos without any visible gender. The images of characters are divided into 5 categories based on the number of males and females in the pictures: male, female, mostly male, mostly female and equal. Some visuals of male characters have swords, and others, guns. This shows male dominance. Visuals of female characters are either pictures of female poets and writers, or mothers holding a baby doing household chores. Males are described mostly in authoritative or governmental roles.

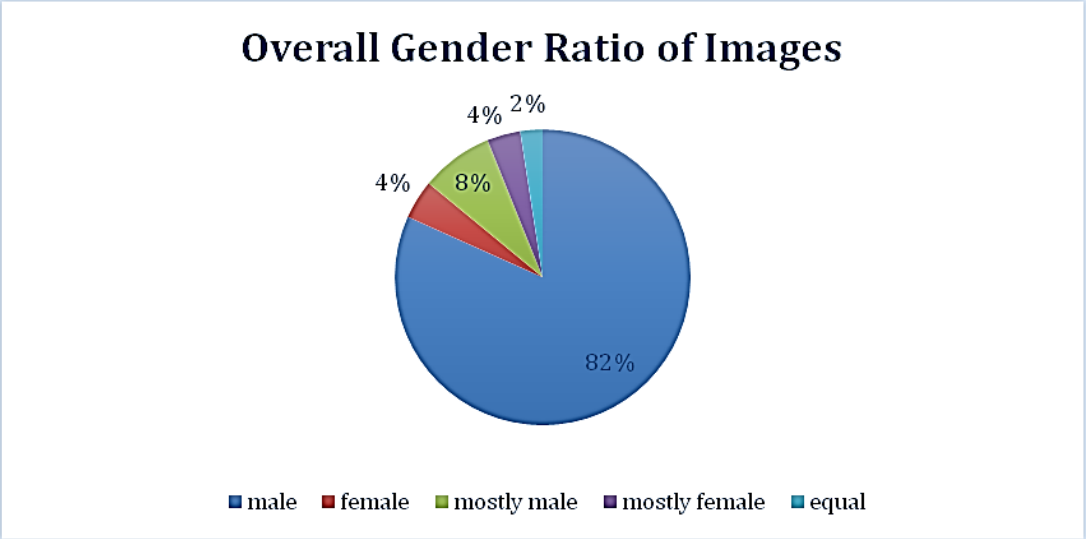


Figure 1 Overall Gender Ratio of Images

Figure 1 indicates the proportion of males and females in the images. Males appear in images more often than females. 73% of characters in visuals are male and 17% of visuals have mostly male characters in them. but only 4% of the characters in visuals are female. Similarly, only 4% of images contain mostly females. Images with equal numbers of males and females are the least frequently represented (2%).

| Male | Mostly male | Female | Mostly Female | Equal |
|---|---|---|---|---|
| 134 | 13 | 7 | 6 | 4 |

Table 5 Overall Male images in textbooks

### 4.1.3. Gender Roles

For the analysis of gender role representation in the textbooks, family roles and other household duties were taken into consideration.

| Gender | Occupational Roles | Domestic Roles | Total |
|---|---|---|---|
| Males | 272 | 93 | 365 |
| Females | 14 | 100 | 114 |

**Table 6. Total number of Occupational and Domestic Roles of Males and Females**

In the 161 texts in the literature textbooks used from grades 5 to 9, very few female characters were represented in occupational roles, which means there is a lack of good examples for female students. Table 6 above shows the total number of domestic and occupational roles of males and females. There are 112 female characters in the text, of which only 12 are represented in occupational roles. The rest of the characters are represented in domestic roles. Female domestic roles include: mother, wife, daughter, sister, fiancée, aunt, mother in law, grandma, granddaughter, sweetheart, and lover. Females are represented in occupational roles such as student, teacher, school director, train guard, farmer, poet, interpreter, and solider. Females were not represented in any occupational roles in the books used in grades 7 to 9. They are only represented in domestic roles in these books. Some texts included in the literature books were written between the 12th and 19th centuries. At that time, women were rarely represented in public settings. The number of male characters is 353. That is why in these texts, males dominate, and they are seen in high ranking positions of that time, such as shah, sultan, khan (king). Males are also often represented in military positions, such as soldiers, officers, heroes, and knights. Only 14 female characters in total have occupational roles. whilst 100 female characters are represented in domestic roles. However, the allocation is vice versa for males; males are mostly represented in occupational roles and only 93 male characters are represented in domestic roles.

The allocation of occupational roles per textbook is even worse for female roles. The findings indicate that only 3% of females hold occupational roles in the texts.

| Domestic Roles | | Occupational Roles |
|---|---|---|
| Female | Mother, wife, daughter, sister, fiancée, aunt, mother in law, grandma, granddaughter, sweetheart | Student, teacher, school director, train guard, farmer, poet, interpreter, soldier |
| Male | Father, grandpa, son, uncle, grandson | shah, khan, governor, mayor, officer, policeman, student, workman, teacher, scientist,<br><br>gangster, soldier, national hero, historical hero |

**Table 7. Occupational and Domestic Roles of Males and Females in texts**

4.1.4 The most commonly used Gender Traits for males and females

Gender attributes refer to the way women and men are depicted in the textbooks. The images of how a man or a woman in a certain society should look or behave are highly dependent on the culture. As described by Mustapha (2012), attributes associated with the genders might resemble the real life of society. Studies have shown that similar attributes have ascribed to both men and women. According to Blumberg (2007, 7), in Syrian textbooks, men are most commonly presented as being brave and popular. The list of "top 10" attributes attached to men is as follows: strong, kind, achiever, innovative, adventurous, hardworking, and educated. Comparing the attributes ascribed to men and those ascribed to women, there were only two that were commonly associated with each gender. Women are presented as: beautiful, kind (the first similarity with men), loving, faithful, motherly, compassionate, generous,

loyal, educated (the second similarity with men), and dependent. The findings reveal that women are seen as caring, emotional, and maternal in contrast to men, who are portrayed as active, goal-oriented, and hardworking. The analysis of the attributes associated with men and women in Azerbaijani literature textbooks may similarly reveal attitudes towards males and females formed historically by being passed down from generation t generation to the present generation.

Examples of gender biases are given to illustrate the gender stereotypes which exist in Azerbaijani literature textbooks.

| Female Traits | Male Traits |
|---|---|
| Young, old, dedicative, hesitant, shy, care giving, dedicative mother, self-sacrificing, teacher, mannish woman, courageous, beautiful, kind, merciful mother, knowledgeable, brave woman | Strong, smart, incapable, capable, respectful, hardworking, fair, authoritative, thankful, leader, overconfident, angry, brutal, brave, hero, militant/ warlike, good, bad, trickster, supporter, arrogant, intellectual, bread winner, income provider, dominant, careless, wise, honest, ungrateful, cruel, oppressor, tyrannous, son, irresponsible, lazy, charitable, confident, self-sacrificing, sneaky |

**Table 8: The most commonly used Gender Traits for males and females**

The quantitative analysis investigated the gender portrayal of characters in texts and images. Overall, men are represented three times more than women in the texts. The percentage of male characters in images is also higher than that of female characters: 73% of images are male and 17% of images are mostly males. These figures show the unequal allocation of gender roles in Azerbaijani-medium secondary school literature textbooks. In order to support and explain the findings, qualitative thematic analysis was conducted with some examples of texts and images.

### 4.2 Qualitative Analysis of Themes in Gender roles

### 4. 2.1 Themes in Men's Gender Roles

In this stage, the attributes found in the texts are divided into themes and samples of texts are provided.

### Income provider

One of the most visible male roles in the texts is being an income provider. In most cultures, including Azerbaijani culture, it is a man's responsibility to take care of the social and economic welfare of his family. From childhood, boys are presented with the idea that it is compulsory for a man to have a profession. There are several reasons for this. First, parents see their sons as a future guarantee. When they get older, it is their children's, specifically their sons', responsibility to take care of their parents. Second, it is a rule that a man should work and earn money and that women should stay at home and take care of the children and her husband's family and do the housework.

Read, for example, the extract from the story titled "Running Alabash by the coast of the sea" written by Kyrgyz writer Chingiz Aytmatov, taken from the 6th grade literature textbook, p 40.

Elə buna görə də atalar deyiblər: «Ağıl — göydən, sərişdə — uşaqlıqdan». Atalar belə də deyiblər: «Çörək gətirməyən oğul nəslə yükdür». Deməli, çörəkgətirən olmaq, ailə dolandıran olmaq üçün kişi xeylağı erkən çağlarından özünə bir peşə seçməlidir. Kiriskin də belə bir peşə öyrənmək çağıydı; oğlanı ovçuluğa öyrətmək, dənizə alışdırmaq vaxtı çatmışdı.

A proverb states that "Wisdom comes from heaven, experience comes from childhood". Another proverb states that "a boy who does not earn money is a burden for his family". To be a breadwinner and to take care of his family, a boy should choose a profession in his childhood. This was the case for Kristin; it was time to for him to get used fishing and the sea. This example indicates the stereotype of it being a man's responsibility to ensure the social and economic welfare of his family and to learn to be the bread winner, an idea that is presented even in childhood. It is a biased attitude in many cultures, including Azerbaijani culture, that only boys are taught to have a profession and to learn the skills of earning money and supporting a family.

**Dominant (in public and domestic setting)**

As Azerbaijani society is patriarchal, men are dominant both in the family and in public. Historically, men have always been in authoritative positions and have been the decision makers. In the majority of texts, men are presented as shahs, sultans, khans, bays, policemen, and presidents. Some of them were presented positively as fair leaders, and some were shown in a negative lightto be cruel leaders. The poem from the fifth-grade textbook, named "Alexander came to the throne" was written by N. Ganjavi and was dedicated to Macedonian Alexander, and glorified his coming to throne. The poem provides an example of male dominance in society.

**Figure 2.** Dominant in public. A patriotic and heroic man

These two themes are connected to each other in Azerbaijani literature textbooks and being a patriot and a hero are mostly accepted as manly qualities. A real man should be a patriot and a hero and should always be ready to sacrifice his soul for the sake of the motherland. Patriotism and heroism are particularly glorified in literature and history textbooks.

Patriotism and heroism are dominant themes because Azerbaijan has been occupied by foreign invaders many times throughout its history. Many men have sacrificed their lives throughout history to protect the country from invaders. Therefore, patriotism and heroism are common topics in Azerbaijani literature. Men in patriotic and heroic roles are presented with swords and military uniforms. In stories and poems, they are described in battles as fighters and winners. Read, for example, the extract from the poem below titled "Mother's admonishment", by Samad Vurgun,

Sən də artır öz əlinlə zəfərlərin sayını.

Get, düşmənin qabağında igid tərpən vüqarla,

Tüfəngini təmiz saxla, atını da tumarla".

A mother delivers a sermon to her son telling him to increase gain more victories, always stay honorable in front of the enemy, to keep his sword (gun) clean, and to groom his horse.

Some images and text samples related to heroism and patriotism are shown:

**Figure 3.** National hero of Azerbaijan, Mubariz Ibragimov

Figure 3, an image from the fifth-grade literature textbook, p. 82 from the text titled "Brave Mubariz". The text is about, Mubariz Ibrahimov, a National Hero of Azerbaijan. He is shown in the picture with gun in his hand. These kinds of images in literature textbooks aim to give people the message that Azerbaijani men are ready to fight to protect Azerbaijani lands from invaders.

**Brave man**

Being brave is one of the key qualities that men should have. However, interpretation of bravery can be vary depending on the nation and their culture. In the texts in Azerbaijani literature textbooks, bravery is described as showing strength by killing enemies, using swords and riding horses. Read, for example, the extract from Dada Gorgud epos (Imprisonment of Gazan Khan's son Uruz) p. 14.

Qardaşım Qaragünəm gördüm, -
Baş kəsib - qan tökübdür, haqqın alıb, ad qazanıbdır.
Sol tərəfə baxdıqda dayım Aruzu gördüm, -
Baş kəsib - qan tökübdür, haqqın alıb, ad qazanıbdır.
Qarşıma baxanda səni gördüm,
On altı yaşın oldu,
Bir gün ola, düşüb öləm, sən qalarsan;
Yay çəkməmisən, ox atmamısan,
Baş kəsməyibsən, qan tökməyibsən.
Qanlı Oğuz yurdunda bir mükafat almayıbsan.

Sabahkı gün vaxt gələr, mən ölüb sən qalanda taxt-tacımı birdən sənə verməzlər, - deyə sonumu andım, ağladım, oğul! – dedi".

In one of the assemblies, the brave men of the Oghuz tribe came together. In that meeting, Gazan khan looked to his right and left, saw his brother and his uncle, and felt proud. However, when he looked in front of him and saw his son, he cried. His son asked why, and he responded: "I looked to my right, saw my brother, he has shed blood, showed his courage, and made his name. I looked to my left side, saw my uncle Aruz, he did the same and became a brave man, but you are 16 years old, you have never shot an arrow, cut off a head, shed blood, and have not been rewarded. If I die one day, you cannot take my throne. My son, I realized my end and cried".

### Smart

In some texts, men are described as being smart. They are presented as scientists or smart boys and they are seen as ready to solve problematic issues and find solutions. Read, for example, the extract from the Azerbaijani tale "smart child", p 91.

Bu kənddə qoca bir qarının Əhməd adlı balaca nəvəsi var idi. O, çox ağıllı və qoçaq uşaq idi. Həmin gecə Əhməd səhərə kimi yata bilmədi, çox fikirləşdi, suallara cavab tapa bilmədi, axırda yadına düşdü ki, bu işdə böyüklərdən məsləhət almaq lazımdır.

Nənəsindən xəbər aldı ki, kəndimizdə heç qoca, ağıllı kişilərdən qalan varmı? Qarı dedi:

– Bala, kəndin kənarında bircə nəfər yaşı yüzü ötmüş bir qoca qalıb, şikəst olduğu üçün xanın adamları onu aparmayıblar".

The khan wanted to take the village from the people. He did not know what excuse to use to take the village. He decided to capture the smart men of the village and posed three puzzles for the villagers to solve. If they couldn't solve them, the khan would occupy the village. There was a little boy named Ahmad in the village. He was a very brave and smart boy. He thought about solutions, and suddenly he remembered to ask grandma whether there were any smart men left in the village. There was one; Ahmad found him, and with the help of the old man, they saved village from the khan.

4.2.2. Themes in women's gender roles

Given that there are fewer female characters in textbooks, there are also fewer themes in women's gender roles.

### Nurturer

Women are often presented as mothers who take care of a child, the family, and who are always ready to serve their families. In the following photo, a mother is trying make her child fall asleep by singing a cradlesong.

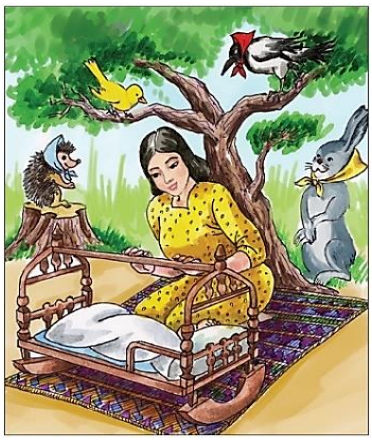

**Figure 5.** A mother singing a cradlesong to her baby

### Dedicative

In literature textbooks, women are presented as being dedicated. Their dedication is mostly related to the domestic setting and their roles as mothers and wives. Read, for example, the extract from a poem written by Bakhtiyar Vahabzxadeh, titled "white hairs", taken from a 5th grade textbook, p. 19

Tanıyıram onu, dostlar, o ağsaçlı qadını mən.

Baxıb məchul bir nöqtəyə xəyalamı o dalmışdır?

Ah, o mənim müəllimim, nə qədər də qocalmışdır!

O ki onda cavan idi. Lakin yenə o cavanlıq

İtməmişdir. Gəlin, dostlar, biz düşünək bircə anlıq

Onun əziz cavanlığı yoxdursa da bu gün onda

O yaşayır mənim kimi yüz cavanın kamalında".

A female teacher is described as dedicated person, who has devoted her life to her students. She became old, but she lives in many young students' souls.

In the domestic setting, read, for example, an extract from a story titled "Through Path" written by Nariman Suleymanov, p 100.

Südabə xala həmişə səhər tezdən durar, uşaqları qalxanadək lazım olan işləri görər, onlar üçün çay-çörək hazırlayardı.

Bu səhər də hamıdan qabaq oyandı. Qalxmaq istədi, amma gördü canı ağrıyır, durmağa da həvəsi yoxdur. Bildi ki, xəstələnib. Yerinin içində astadan öz-özünə danışdı:

– Mən durmasam, iş aşmaz. Gedim bulaqdan su gətirim. Çay qoymaq lazımdır. Hələ uşaqlar əl-üzlərini də yuyacaqlar.

– Tərs kimi özüm də xəstələnmişəm".

Aunt Sudaba usually got up early in the morning, did the necessary household chores, and prepared breakfast before the children got up. This morning also woke up before everyone but could not get up because she was in pain. She was sick. She said to herself that if she didn't get up, nothing would go right. She needed to make tea, get the children to wash their hands and faces, and to fetch water from the spring. Even though she was ill, she felt guilty staying in bed.

**Courageous**

In a few texts, women are represented as being courageous. Read, for example, an extract from a story called "Between two worlds" written by Seyid Huseyn, p 40.

Payız mövsümü yaxınlaşdıqca Ənisənin vəziyyəti ağırlaşırdı. Üç ay olardı ki, o, məktəb həyatından ayrılmışdı. Bu üç ayın ərzində o, gələcək həyatı ilə bağlı bir qərara gəlməmişdi. Onun qarşısında üç yol vardı: darülfünun, ictimai həyat, ər evi.

Ənisənin yazdığı məktubu Muxtar Məşədi Əhmədə oxudu: Atacan! Bilirəm, mənim hərəkətimi pisləyəcəksən, çünki mən sənin sözündən çıxdım. Sənin xahişinə əməl etmədim. Yalnız bununla kifayətlənməyib, sənin evini tərk edib kəndə gedirəm.

Mən çox yaxşı bilirəm ki, qoca atalara ehtiram etmək lazımdır. Lakin kor-koranə onların əmrinə tabe olmaq ehtiram deyil. İnanıram ki, indi olmasa da, gələcəkdə mənə haqq verəcəksiniz".

A girl called Anisa was in a difficult situation; she had to make decision. She had three choices: going to university, going to the village school where she had been offered a job, or getting married. Although her father wanted her to get married, she was against the idea and, at last, she decided to go to the village school, wrote a letter to her father, and left home.

The 8th grade textbook provides another example in the following extract from the poem called " Sultab Sanjar and Old Lady" by Nixami Ganjavi, p. 30.

Zülm edib bir qarıya çox uddurmuşdular qan,

O da Sultan Səncərin tutaraq yaxasından

Dedi ki: – Səndə insaf az görmüşəm, qulaq as!

Səndən gördüyüm zülüm əsla hesaba sığmaz".

An old lady was tyrannized by Sultan Sanjar's people. She was fed up of the sultan's tyranny, so she stopped him and ordered him to listen. She told him that she had not seen any mercy from him and that she could not count the number of times he had oppressed the people.

## Discussion

Previous research conducted on English language textbooks indicated that there had been an improvement in balancing the portrayal of both genders in textbooks. For example, in the research titled "Gender Balance in K-12 American textbooks" conducted by Chick, there were more males than females at all school levels in both texts and images. However, newer history textbooks added more females than previous editions had had, which happened since the publication of the National History Standards. However, there was the same percentage of images of males, reinforcing the lack of change in the status of women in this textbook.

In the Azerbaijani context, there has been no previous substantial research conducted on gender roles in textbooks. Only one report was compiled in 2001 by UNICEF and the Ministry of Education of Azerbaijan. The interesting point of this research is an analysis of one random primary level grade 2 school textbook.

New findings have demonstrated that there is an imbalance in gender representation in Azerbaijani-medium literature textbooks. The results indicated that women are represented three times less than men in Azerbaijani literature textbooks. Gender stereotypes are also prevalent. Either women are excluded, or , if they are represented, they are portrayed in lowlier positions than men. Female characters were mostly presented in domestic roles with more passive attributes. Overall, the content of the Azerbaijani literature textbooks used in grades 5 to 9 present a big gap between two genders. The analysis indicated that the percentage of male characters represented is higher than that of female characters in all literature textbooks for both texts and images. The occupational roles of characters from both genders were analyzed as well. The research revealed that women are not represented as often as men in occupational roles. Females are mostly presented in domestic roles. Women are presented as being connected with the family, and are seen more frequently than men in domestic roles, taking on almost all the housework in all the textbooks. Based on the results of the quantitative analysis, the characters of both genders were grouped in themes.

Previous research established that females' activities were mostly in domestic settings. The results of the present study corroborate this finding; female activities were still restricted to domestic roles, such as doing household chores

Moreover, in the previous research, men were represented in images more frequently than females. Unfortunately, the new findings revealed no improvement in the representation of women in images, as the majority of images were of men.

In previous research, an examination of the distribution of household responsibilities in the textbooks revealed that females tended to be in more traditional stereotypical roles such as doing housework and taking care of her children and husband, and serving guests. The sad reality is that the findings of the present research highlight the same biased portrayal of women.

In every category there was evidence that gender discrimination exists in textbooks used in secondary schools. Although over half of Azerbaijan's population is female and women are becoming more active in various social roles, they are still represented in pictures less than men are. It seems that the patriarchal culture has not left space for female visibility in secondary school literature textbooks.

Since textbooks reflect the social, cultural and religious ideologies and perceptions of writers, there is no doubt that there is not much room for women's visibility in Azerbaijani textbooks at the secondary school level. Regarding occupation, the gender inequality was even more obvious. In five Azerbaijani-medium secondary school literature textbooks, women were mainly seen in roles traditionally associate with females, such as teaching and doing household chores. It was also very clear that women were not portrayed as having a wide variety of jobs, whilst the men in the textbooks had a wide range of occupations. Males were also often portrayed as bread winners and as involved in providing the family's income. Overall, male characters were overrepresented in the five textbooks examined in the following ways: visually in frequency and order of occurrence, occupation, and stereotypical activities. Sexism, it seems, is so deeply ingrained in our culture, our language, and our subconscious that it is difficult for us to avoid it in the production of educational materials.

## Conclusion and Recommendations for MOE, textbook writers and for teachers

Although Azerbaijan is undergoing changes and developments in all domains including issues relating to gender, this study revealed that society's old stereotypes are still alive and revived through different, modern and even educational ways. The present research examined only a few aspects to determine the representation of men and women in the textbooks. The results indicate that girls and women are less visible than boys and men in texts and images. In addition,, textbook writers portrayed women in limited occupational roles, whilst men are represented in variety of jobs. Males are dominant in the occupational roles and this may hold girls back from social and professional improvement. Here are recommendations for developing textbooks in the future:

1. Other secondary school textbooks should be analyzed to determine whether they are gender sensitive or not.
2. Gender stereotypes in school textbooks and classroom practices in policy documents should be eliminated. Elimination of gender biased texts and images may not be enough to attain the SDGs of gender equality by 2030. The most challenging part will be to change the attitudes of educators and textbook writers. Writers of educational materials should analyze textbooks for and aim to reduce the dominance of males as much as possible. This would mean that men and women are portrayed fairly future textbooks in terms of the number of male and female characters. One of the best ways in mainstreaming gender equality into the curriculum and teaching materials is regular revision of these materials by including gender-sensitive approaches and gender perspectives.
3. It is recommended that the Ministry of Education consider arranging small teams of outside academics – including at least one member with expertise in gender and education – to evaluate the textbook authors' compliance with the adopted demands of textbook policy.
4. Gender experts should be involved in training textbook writers in aspects of gender equity related to textbook publication. This should help to create a positive attitude for gender reform.
5. After ensuring a reduction in gender bias in textbooks, school teachers should be trained on how to use gender biased textbooks by using gender sensitive teaching methods. They need to be trained to use techniques that empower them to tackle gender-biased materials, and to present them to students in an unprejudiced way because teachers are the key people in delivering information to students.
6. Finally, guideline books should be published that will help instructors implement gender sensitive teaching methods in their lessons.

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## Statement of Conflict

There is no any conflict of interest.

## Analyzed textbooks

1. .....5th Grade Literature textbook
2. .....6th Grade Literature textbook
3. .....7th Grade Literature textbook
4. .....8th Grade Literature textbook
5. .....9th Grade Literature textbook
6. Elektron derslikler portal:
7. https://bit.ly/2Q9dxVh

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RESEARCH ARTICLE

# Comparative research to ameliorate conditions of the tertiary education (Ph.D.) in Azerbaijan

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**Doi Serial** https://doi.org/10.56334/sei/8.10.29

**Keywords** Doctorate, Ph.D., tertiary education, research work, thesis

**Abstract**

This research was conducted as a conference paper for the ADA University 4th International Education Conference in 2019. The aim of this study is to analyze the position of Ph.D. degrees in Azerbaijan, their shortcomings, and the ways in which they can be improved and how national researchers can take their place in the global arena. The data collection methods were document analysis, a survey, interviews, and quantitative analysis of their content. The results show that Azerbaijani researchers are willing to integrate into the world science; however, there are a lot of difficulties and pitfalls, and the general procedures do not correspond to the standards of world science. The study revealed that researchers get support much more from their advisors than their universities. Ph.D. candidates are pushed to conduct research without instructions, knowledge of appropriate methodologies, and resources from the universities. Considering the low scholarships and high education fees, almost all researchers have jobs, which makes the process more complicated and protracted. Although the government has already implemented various programs and reforms, there are still many aspects to work on. The current research recommends learning from different European universities' experiences and strategies in this field.

**Citation.** Alasgarova G.A. (2025). Comparative research to ameliorate conditions of the tertiary education (Ph.D.) in Azerbaijan. *Science, Education and Innovations in the Context of Modern Problems*, 8(10), 320–329. https://doi.org/10.56352/sei/8.10.29

**Issue:** https://imcra-az.org/archive/384-science-education-and-innovations-in-the-context-of-modern-problems-issue-10-vol-8-2025.html

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Received: 14.01.2025 | Accepted: 15.07.2025 | Published: 05.08.2025 (available online)

## Introduction

There are three steps in the Azerbaijani education system for higher education: Bachelor Studies, Master Studies, and Ph.D. Studies. Azerbaijan, like Russia and other republics of the former USSR, has two types of doctorate degrees: Doctor of Philosophy (in certain fields) and Doctor of Sciences degrees. “There is no equivalent of this "doctor of sciences" degree in the US academic system. It is roughly equivalent to Habilitation in Germany, France, Austria, and some other European countries.” (Academic degree) Of all the universities in Azerbaijan, only Khazar University implements a Ph.D. as the highest degree in the joint program of Doctor of Philosophy and Doctor of Sciences. “A doctorate is the highest level of higher education and provides preparation of scientific and scientific-pedagogical personnel and ensures raising the qualifications and scientific degrees. The rules for the establishment of Doctoral Candidacy and admission to Doctoral Candidacy were approved by decision №129 of the Cabinet of Ministers of the Republic of Azerbaijan dated July 01, 2010.” (Decision no. 129)

The Ministry of Education and the Azerbaijan National Academy of Sciences are the main bodies responsible for doctoral programs. The Supreme Attestation Commission is responsible for delivering the doctoral diplomas. Higher education in Azerbaijan is provided at universities, institutes, academies, and conservatories.

"Azerbaijan's education system is growing rapidly through integrative networks, especially since September 2005 when the Ministry of Education of the Republic of Azerbaijan signed a membership agreement with the European Higher Education Area in Norway." (BSU, Khazar University, 2017, p.22). "Azerbaijan enjoyed a consistent economic growth; by 2013 the GDP of Azerbaijan increased 5 times compared to its 1995 level. In GDP the share of education expenditure is 3.2%, while the share of expenditure on higher education is 0.25%. Azerbaijani GDP (PPP) per capita was about 6,115 U$D in 2015." (Overview of the Higher Education System, Azerbaijan, p.8). After 5 years, the numbers are still the same, according to State

Statistics:

| **State budgetary financing of science** | 2013 | 2017 |
|---|---|---|
| **expenditures for science from the state budget, in millions of Manats** | **117,0** | **109,8** |
| in percent of GDP | 0,2 | 0,2 |
| in percent of state budget expenditures budget expenditures | 0,6 | 0,6 |

According to the World Bank, in 2016, 17.083 percent of Azerbaijan's government expenditure was spent on tertiary education, a figure which is higher than that in Georgia, Kazakhstan, and Turkmenistan (World Bank). According to the State Statistical Committee of Azerbaijan Republic, over ten years (2007-2017) in all indicators (the number of institutions carrying out Ph.D. programs, students who have reached the end of Ph.D. programs, and numbers of students who have defended their dissertations), the figures almost doubled. However, the number of students who have successfully defended their dissertation (74) was still seven times lower than the number of students who reached the end of the program (529) in 2017.

1.9.1 Main indicators of Ph.D. (source: State Statistic Committee)

| | **2007** | **2017** |
|---|---|---|
| **Number of institutions carrying out Ph.D. program** | **96** | **117** |
| Number of people studying on a Ph.D. program | 1681 | 2168 |
| Number of women studying on a Ph.D. program | 565 | 1215 |
| Number of students admitted to Ph.D. programs | 452 | 455 |
| Number of students who reached the end of a Ph.D. program | 431 | 529 |
| Number of graduates who defended a dissertation | 31 | 74 |

**Theory/Context**

Admission for the Ph.D. level is under the control of each organization, institution or university, in 24 branches of science. Additionally, there are 135 professional doctorate programs. As soon as a candidate is accepted for this level s/he must find an adviser, select a topic and start a three-year (or four-year, if studying part-time) challenge. After admitting students, the organizations offer little support and all responsibilities fall on the candidate and his/her supervisor.

Since 2010, several measures have been taken by the government in order to integrate Azerbaijani science into the international scientific community:

1. "Azerbaijan 2020: Vision of the Future" and the "National Strategy for the Development of Education in the Republic of Azerbaijan";
2. Elimination of postgraduate course (aspirantura) in 2010;

3. The establishment of Azerbaijan Young Scientists, Post-Graduates and Masters Union (AYSPMU) (2003), the Science Development Foundation (2009), Republican Competition "Scientists of Tomorrow" (2011), The Knowledge Foundation (2014), Youth Foundation (2011);
4. "State Program on Education of Azerbaijani Youth Abroad in 2007-2015" exchange program (3558 students), as well as programs offered by Mevlana, Erasmus, Tempus, Horizon 2020, and the State Oil Fund of Azerbaijan Republic within the framework of the State Program;
5. "State Program for increasing international competitiveness of the higher education system of the Republic of Azerbaijan in 2019-2023" between the Ministry of Education and Clarivate Analytics ("Web of Science®")
6. Increasing the payment students receive for duties (2017) and increasing scholarships/ stipends (2019) for Ph.D. candidates;
7. Azerbaijan National Academy of Science and the government support young Ph.D. students (under 35) with discounted apartments;

From the table below, it is obvious that all aforementioned reforms are having positive effects; the number of Azerbaijani scientists' papers published in indexed journals has increased by 74 percent and the average age of people in science is decreasing.

1.9.12. Students studying a Ph.D. program in 2017 by age groups:

| | including by age | | | |
|---|---|---|---|---|
| | under 30 years old | 30-34 | 35-39 | 40 years and over |
| **Total, person** | **1067** | **512** | **289** | **300** |
| including attached to: | | | | |
| Ministry of Education | 668 | 216 | 162 | 187 |
| National Academy of Sciences | 197 | 125 | 46 | 49 |

**Literature review:** All universities give detailed information about the admission process for Ph.D. degrees on their websites. This information is taken from the website of both the Ministry of Education and the Cabinet of Ministers of the Republic of Azerbaijan. The universities' websites, therefore, contain the same information and general rules.

Various decisions, bulletins, statistical tables, and laws passed by the government, ministries, and committees are used in this research paper. The study, therefore, can be considered quite reliable and valid. Several news portals have written about the Ph.D. admission process, education fees, but have only touched on the problems, stating nothing about future reforms.

Comprehensive research was conducted in English by the Ministry of Education of Azerbaijan, Baku State University, and Khazar University in 2017. They considered topics such as the structure of doctoral education, doctoral candidates, thesis submission, and research excellence. They produced a detailed report, including information about all of the laws and reforms. However, this report lacks firstly Ph.D. students' views on the problems and secondly, detailed information about the implications of these problems. Professor and founder of Khazar University, Hamlet Isakhanli, mentioned some concrete problems that Azerbaijani Higher Education faces today, including endemic corruption and bribery, lack of academic freedom, a lack of autonomy, and absence of rector conferences in his article "Strengths and Weaknesses of Private Universities in a Transition Economy: a View from Azerbaijan" . This is useful work, but is, however, now outdated.

All in all, none of the articles published previously have mentioned the problems in tertiary education today, the reasons for its shortcomings, or suggestions on how these problems can be solved.

**Methodology**

Why do almost more than half of the Ph.D. candidates fail to defend their thesis in time? Why do some researchers drop out of their programs in the middle of their education? What are the pitfalls that lead to poor outcomes in tertiary education? The research hypothesis is that although there have been some reforms in higher education institutions and scientific organizations, implemented the Cabinet of Ministers in 2010, this sphere is still transitioning from the old Soviet education system to the Bologna system ("Plan of activities on implementation of the requirements of Bologna Declaration in the higher education system of the Republic of Azerbaijan for 2006-2010" was adopted in 2005).

This paper examines how the quality of research dissertations can be enhanced, and what can be done to do to help Ph.D. candidates successfully craft, defend, and present their work, not only locally, but also internationally. This research focuses on making suggestions to increase the status of Azerbaijani Ph.D. degrees in European countries and to eliminate certain problems. The methodology involved comparing the Azerbaijani defense procedure with that in European Universities, conducting a survey among Ph.D. candidates, and conducting interviews with advisors and heads of the Offices of Doctoral Studies.

A survey with twenty questions was designed to gather information about whether Ph.D. candidates were satisfied with the procedures, specifically, how they felt about levels of preparation, planning, critical thinking, and dedication, and their views on this level of education in Azerbaijan, etc. The survey, therefore, included multiple questions on their admission, advisors, institutions, and their dissertation. The survey included closed questions, employing 5-point Likert-type scales, but also open-ended questions, prompting free-text responses. The survey was written in Azerbaijani using Google Forms and participants answered the questions online. It was launched in March 2019 and there were sixty-five participants. All respondents participated voluntarily and were given a written information sheet about the research. No personal questions were asked, and anonymity was ensured.

Three workers of Doctoral Studies in various fields were interviewed with the following questions:

1. How do you evaluate the highest level of education in Azerbaijan today?
2. What are the main obstacles and barriers that only small numbers of researchers can overcome?
3. What are the solutions can help improve research?

All three promised to talk sincerely if their anonymity would be ensured. According to them, unfortunately, the main obstacle is active corruption and bribery in this field. People who need a higher status but do not have time pay for research and use writing services, paying for written work. The best solution is to use the electronic submission for written work and increase the payment Ph.D. students receive for performing duties.

Personal interviews with several advisors, professors, and instructors shed some light on this field from different angles. According to two professors, persistent, hardworking, and deserving candidates can gain admission to programs, study, conduct valuable research and defend their thesis, perhaps even presenting it internationally. The main factor in achieving this is the researcher's competence, not the government, organizations, or advisors.

The limitations of the present study include the fact that the findings cannot be generalized since this investigation concerns only one education level and due to the limited time, it was possible to contact only a limited number of experts and advisors. The number of survey respondents was also limited and, therefore, may not reflect the attitudes of a broader segment of Azerbaijani researchers who are not regular users of the Internet or are not followers of social media. That is why it cannot be stated with certainty that the results apply to everyone taking a Ph.D.

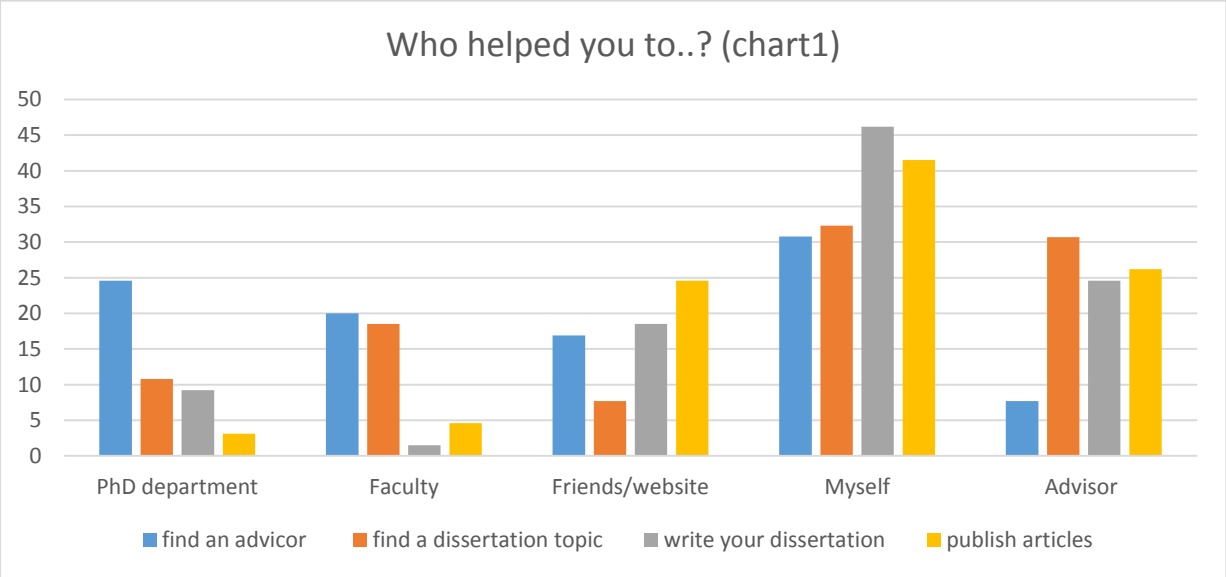
## Findings

This paper focuses on Ph.D. candidates. Thus, a survey was administered to collect original data revealing researchers' views and basic needs. Conducted nonprobability sampling was a suitable method for gathering data that measures support from advisors and universities for these Ph.D. students. The questions were not mandatory, so there are variations in response numbers, as shown in the tables.

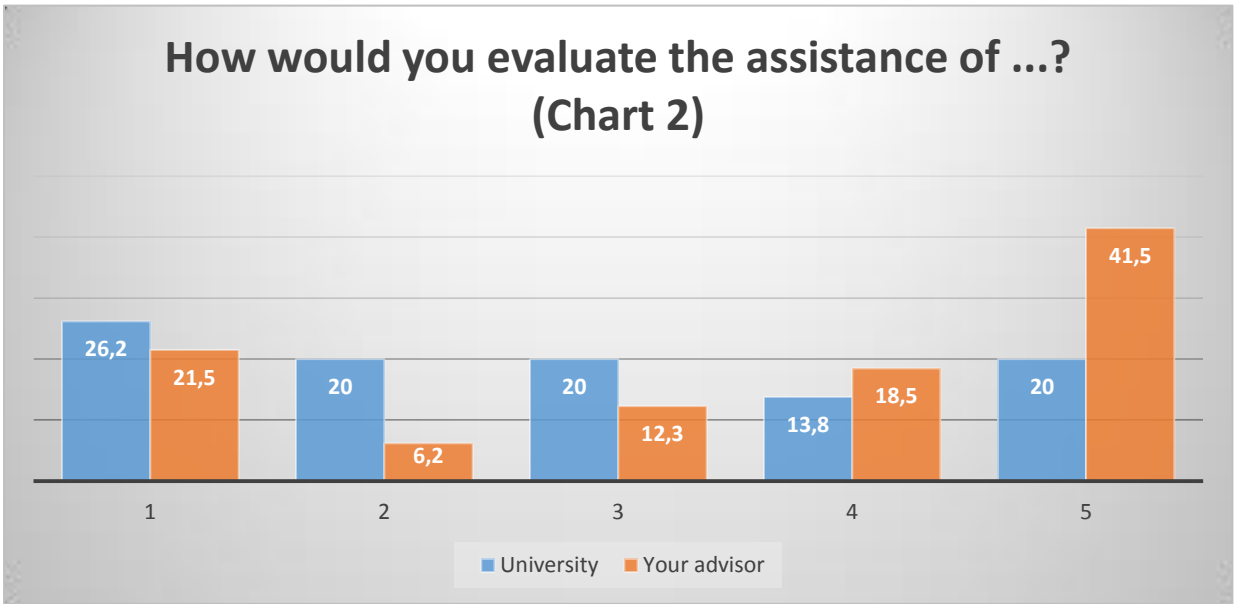
Most of the respondents were researchers who have completed the period of education but could not defend their dissertation (46%). Others are still working on their research (20%), and 4,6% have dropped out of their program. The main reasons that forced them to drop out of their education were difficulties in combining work with research (26% of respondents) and the complicated, long, and tiring procedure of defending a dissertation (26% of

respondents). Only 19 out of 65 respondents have defended their dissertation, and this took around 6-7 years. Regarding the admissions process, almost half of the respondents (48%) felt that this was fair.

Chart 1 shows that researchers themselves tend to take an active part in the selection of the advisor, thesis topic, developing their writing style, publishing articles abroad, and participating in foreign conferences, which can be considered a positive thing and an indication of independence.




Of particular interest were researchers' answers concerning the level of advisors' and universities' help. Respondents think that advisors help much more than universities. Unfortunately, none of the respondents said that they had got a part-time teaching position in higher education institutions or academic organizations with the approval of supervisors/ advisors.

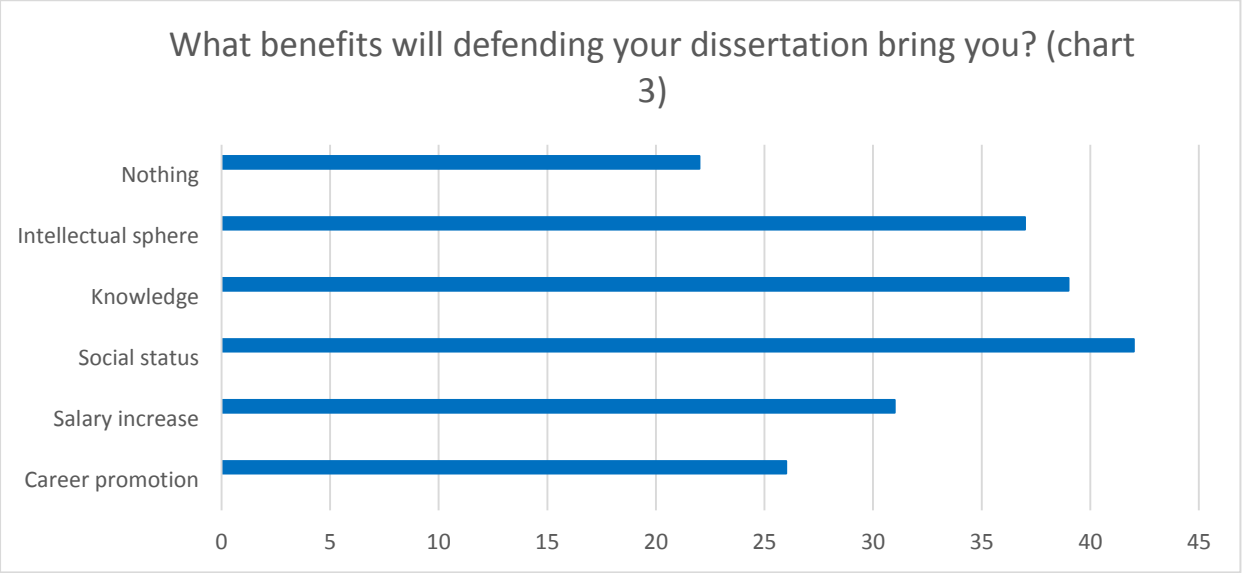



Researchers expressed willingness in expanding exchange programs (63%), attending compulsory "academic writing" and "research methodology" classes (59%), and eliminating some exams (39%)., It is pertinent to mention at this juncture that there are several mandatory courses, including 1. philosophy (for independent dissertation researchers only), 2. computer science, 3. English language, 4. Azerbaijani language (for foreigners only), 5. The student's major, 6. compliance exam (or a complimentary subject). Admittedly, most of these are not implemented

or financed (neither the course nor the exam) by the universities. There are insufficient exchange programs at Azerbaijani universities compared to European universities, as there are fewer resources for implementing joint degrees or establishing exchange programs. Furthermore, it is almost always university employees who take part in the limited exchange programs that are available; they are usually out of reach for Ph.D. students.

Regarding the resources researchers use, respondents indicated that they mainly use published articles and papers (71%) and online library resources (70%) in English (77%) and Russian (59%). They conduct analysis of books (63%), translate (60%) and conduct experiments (39%). 22 respondents out of 65 were disappointed with the process of studying a Ph.D. in Azerbaijan. Only 9 Ph.D. candidates think that their research will make a useful contribution to world knowledge.

Chart 3 illustrates the main reasons for candidates give for wishing to complete their research. The main factor is "Social status" as can be seen (42%).




There was one open-ended question in the survey, which yielded interesting answers. Coding and categorizing these answers yielded the following table:

| Question- **What would be your advice to advance this field?** | | | | | | |
|---|---|---|---|---|---|---|
| Focus group-**PhD graduates, Ph.D. candidates, and Ph.D. dropouts** | | Number **(almost 40 responses)** | Online questions-**Google Form** | Location-**Azerbaijan** | Date-**March 10-30, 2019** | **No personal questions; Anonymity was ensured** |
| **By** | **Ways to improve** | **Fields to add** | | **Fields to eliminate** | | **Financing** |
| **University** | Admission must be fair<br>Second foreign adviser;<br>Support from the university for field and practical research;<br>Selection of valuable themes in the world;<br>Strong control over adviser's work by the Ministry of education;<br>Defense process should be much easier; | One-year practical education (academic writing and social research methods);<br>Compulsory teaching hours; | | Final exams;<br>English is not important for all PhDs (like Azerbaijan language and literature); | | Elimination of education fee;<br>Free of charge article publication;<br>Financial support for IELTS exams; |
| **Government** | Up-to-date materials in local libraries;<br>Standard of living should be raised;<br>Simplifying of documentation procedures; | Access to international databases;<br>At least one-semester exchange program (joint doctoral programs); | | Artificial barriers;<br>Abolish the Supreme Attestation Commission; | | Monthly scholarship (up to 1000 AZN);<br>Support for PhDs from outside the capital (e.g. e.g. with accommodation);<br>Financial support for international conferences; |
| **Pessimism** | | In Azerbaijan, nothing will be changed (7 replies) | | | | |

With the help of our countrymen, the Azerbaijani Network of Academics (ANA) was established recently to support of Azerbaijani scholars in America. "ANA fulfills a special mission to streamline academic work on Azerbaijan and Azerbaijanis in America to serve both the community and the US society in general serving as an intellectual focal point for the community's development, promoting Azerbaijan/is related research and acting as a platform to strengthen scientific bridge with academia in Azerbaijan" (ANA). The ANA will organize its first academic symposium on June 17-18, 2019 at George Washington University, and the participation of US-based Azerbaijani researchers will be highly valued.

Ex-minister Mikayil Jabbarov found that the main problem in the field of Master and Ph.D. degrees concerned finance. At the XXI Republican Scientific Conference of doctoral students and young researchers, Jabbarov said: "Currently, the main problem with doctoral and master's studies in Azerbaijan is that preparation of academic staff in the universities is not carried out at the expense of the state, but at the expense of higher education institutions themselves". According to him, this approach creates a basis for some negative phenomena observed in recent years and does not fully reflect the priorities of state policy. (Report.az, 2017). In practice, higher education systems are mostly financed by the state budget, and by tuition fees.

The current Minister of Education, Jeyhun Bayramov, drew attention to the fact that there are no Doctors of Science under the age of 30rather, doctors of science over the age of 63dominate. "At the moment, the Ministry of Education is working to improve the education process in doctoral studies, its structure in accordance with the requirements of European education standards," said Mr. Bayramov (Azerbaijan vision, 2019).

Politicians, such as Member of the Milli Majlis Committee on Science and Education Sona Aliyeva, AYSPMU chairman Ilgar Orujov, and ANAS Ph.D. department chief Omar Gulalov strongly praise the current situation of researchers and talk about the positive developments in Azerbaijani science.

Tuition fees are an important issue to consider. Ph.D. fees range from 2,400 to 4,000 AZN year. Regarding the scholarships, doctoral candidates studying full-time and benefitting from free of charge education receive a state allowance of 120 AZN a month. However, to take an example, at Baku State University, 90% of doctoral candidates are charged the full tuition fees and only 10% of candidates benefit from free tuition. "No other research allowance/grants are available. The majority of doctoral candidates work to cover their living/research expenses (i.e. at least 50% of doctoral candidates). It is widely recognized that doctoral programs tend to be self-funded." (BSU, Khazar University, 2016). There are also dire economic prospects after graduation: the level of wages for graduates of doctoral programs is a significant issue (graduates earn only 30 AZN more having gained their degree). Salaries for supervisors and teaching staff are also low (40 AZN/month for one Ph.D. candidate).

## Discussion

The data collected from the survey and interviews strongly indicate that nowadays there are plenty of young people who would like to conduct a range of research projects and to contribute to world science. Although admission can be considered fair and impartial, studying at the Ph.D. level and, in particular, the documentation and defense processes are complicated and not always impartial. Almost every researcher complains about bureaucracy. To apply for the first discussion of the dissertation at an institution, the Ph.D. candidate must collect twelve various sealed, signed, and confirmed documents at ASAN services (Bulletin, p.56). This process slows science, education, and enterprise, and hinders the processes of assessing and evaluating information, critical thinking, and the skillfulness of the researchers, as they are constantly busy with documentation.

The second and biggest problem concerns finance. Ph.D. students often have low incomes and expensive commitments: publishing articles, participation in conferences abroad, exams, purchasing books, conducting experiments, collecting data, and editing and printing the dissertation. All these commitments, and the many others required to complete a Ph.D., scare the young and financially dependent researchers off. It is, therefore, no wonder that some respondents suggested monthly scholarships of up to 1000 AZN for Ph.D. students in the survey.

It appears that there are limited institutions that support and assist their researchers with access to online databases. Some universities organize conferences and give their researchers the opportunity to attend for free, but that is all. "According to the Accreditation Committee laws, if there is penalty criminal offense, plagiarism of higher education documents, discrimination, bribery or broken the professional code of ethics rules, then advisors and researchers are punished and dismissed from their position or dissolves the decisions of the dissertation councils"

(Bulletin, p. 18). As a result, the universities themselves never get penalized and they do not focus on improving the quality of research.

The analysis of surveys and interviews confirms that there is a lot of room for improvement and development and that there is a need for some novel reforms Ph.D. process in Azerbaijan. Although Azerbaijan has advanced a lot compared to some other countries in the region, the government should still monitor the situation.

## Conclusion/ Implications

The present study strongly supports the concept that the government and the Ministry of Education should work on improving the resources and conditions of the researchers. Unfortunately, it is hard to say the same about the universities. For five years, universities have applied antiplagiarism programs which is the only new step towards improving research ethics and eliminating fraud and plagiarism in research. Based on European experience in this area, the government, ministry, and organizations (institutions) should support their researchers with the following:

- Almost all institutions in Azerbaijan have the same requirements for students wishing to pursue a Ph.D.: a master's degree, at least two articles, passing exams in philosophy, English and the student's major. After that, the commission can either interview the future researcher or blindly select candidates. To eliminate prejudice, favoritism and any biases, it would be advised to implement admission through the State Examination Center of the Republic of Azerbaijan.

- To eliminate long and tiring documentation procedures, it would be better to do them all through ASAN services and the long process the defense would be electronic and transparent.

- All procedures should be implemented through a unified electronic information system and every Ph.D. candidate should have personal access to the blackboard. That will help them to learn about any announcements, tasks, grades, courses, and would allow them to participate in discussions, upload assignments, etc.

- Most Ph.D. students face difficulties with writing. Institutions should allocate half-semester courses on social research methods and academic writing, either in the universities or doctorate schools (which should be created by the government). These courses will teach students how to structure, define, and present their research ideas in writing and how to manage a project. As an example, Granada University in Spain opened its School of Doctorates for this purpose.

- In Azerbaijan, it is extremely rare to encounter any researcher with two advisers, whilst in Europe, this is quite common. Organizations should introduce Ph.D. candidates to foreign advisers from partner universities. With double the support, it would be much easier to conduct the research and gain a deep understanding of the theory and methodology necessary for the dissertation.

- Most universities should help with the topic selection and should have a database of relevant research topics. This would prevent overlaps in topics and would encourage researchers to work on novel topics. Only limited organizations, such as the Institute of Literature named after Nizami Ganjavi presents approved topics and topics already being studied online.

- Almost no universities provide access to the international databases of articles and resources like SCOPUS, JSTOR, EBSCO, etc. which reduces the quality and integration of local dissertations. Not having access to international journals and lacking the skills to use a variety of search engines and tools online create difficulties for Ph.D. students in completing their research. At the same time, local scientific journals should improve their quality and aim for global recognition.

- During their three years of study, the Ph.D. candidate should publish at least five articles, should participate in three conferences with his/her thesis, and should take the doctoral examination in three subjects. Additionally, it would be beneficial to add compulsory teaching hours at universities during the third year to improve Ph.D. students' teaching skills. If universities in Azerbaijan cooperate and exchange their Ph.D. students for teaching purposes, they will certainly benefit from it and develop.

- Some concrete steps should be taken in order to participate in science internationally. Even the requirements for writing style should be changed. Either APA or Chicago style should be used for referencing, and papers

should include a research statement with objectives and sub-questions, a literature review, an abstract, data collection strategies, details about sampling, instruments, and fieldwork, and students should also make contingency plans.

• Finally, the programs should have a comprehensive and modern evaluation system, as in the European Doctoral Programs Association. "There is an urgent need for Azerbaijani universities to revise the rules and content of organizing doctoral studies... especially in ensuring science and research provisions in relevance with EU standards, to fulfill the students' mobility - one of the basic provisions of the Bologna process." (Khazar University, 2017, p.4)

On December 10, 2018, the "Order of the President of the Republic of Azerbaijan on additional measures to improve the attestation of scientific and scientific-pedagogical personnel in the Republic of Azerbaijan" was given. This order has raised expectations. Within two months, the Ministry of Education of the Republic of Azerbaijan and the Azerbaijan National Academy of Sciences will prepare and submit a proposal on improving scientific research. It is hoped, that some of the abovementioned suggestions will be taken into consideration, although for more detailed proposals, a group of Ph.D. candidates should be surveyed.

Overall, this data suggests that there are a lot of innovations and reforms that should be applied to the Ph.D. level education as soon as possible. Only after that can Azerbaijan science join in taking its worthy place on the global stage in the sphere of education.

## Acknowledgement

I would like to express my sincere gratitude to Oxbridge Academy for their support and resources that facilitated this research. Special thanks to my colleagues and mentors for their valuable insights and guidance throughout the study. I am also grateful to all participants who contributed their time and perspectives, making this research possible.

## Conflict of Interest

The author declares no conflict of interest related to this research. The views expressed are solely those of the author and do not necessarily reflect the official policy or position of any affiliated institutions.

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RESEARCH ARTICLE

# Perceived Measures for Effective Implementation of Universal Basic Education (UBE) Programme in Primary and Junior Secondary Schools in Delta State, Nigeria

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**Doi Serial** https://doi.org/10.56334/sei/8.10.39

**Keywords** Nigeria, Education programme, implementation, Education in Africa

## Abstract

Education is described as the key to unlock the golden door of freedom. One of the main reasons for the introduction of the Universal Basic Education (UBE) programme in Nigeria is to provide free and compulsory basic education for every Nigerian child of school age. Despite the efforts of successive governments in Delta State to provide quality education, there is still a learning crisis because 551,709 children are out of school . The education deficit in the state was recently highlighted by the case of a primary pupil called Success Adegor, who was sent home because her parents could not pay the illegal school fee; additionally, the infrastructure and education in her school were both of poor quality.. In unraveling the factors preventing the effective implementation of UBE, qualitative and quantitative research design approaches were employed. Five headmasters and ten principals were selected from three senatorial districts in Delta State using stratified, purposive, and convenience sampling techniques. An instrument called "Interview Protocol on Perceived Measures for Effective Implementation of UBE Programme"(IPPMEI) was used to gather relevant information. Additionally, secondary data was obtained from the Federal Ministry of Education's education indicators. Findings from the qualitative approach indicate that the objective of providing free and compulsory education for children in primary and junior secondary schools is yet to be fully achieved, and that there are many factors associated with

the implementation of the UBE programme. These factors include poor funding, inadequate infrastructure, poor maintenance culture, lack of adequate data, and poor remuneration for teachers. Additional findings from the quantitative approach revealed that classrooms are overcrowded, with too many pupils in each class. Specifically, in primary schools, there are 57 pupils per classroom , whilst in secondary schools, the figure is52 pupils per classroom. There is also a decline in enrolment level; in public primary schools, the enrolment level is 2,346,112, while the student enrolment level in public junior secondary schools is 924,662. The completion rate is also a serious issue. The completion rate in public primary schools is 43.13% for males and 39.48% for females, while the completion rate in junior secondary schools is 42.74% for males and 35.83% for females. Furthermore, there are too few teachers in both primary schools and junior secondary schools. For instance, the total number of qualified primary school teachers is 7,930 while the number for junior secondary schools is 5,283. The number of unqualified teachers in primary schools is 1,377 while 6,059 are unqualified in junior secondary schools. Measures suggested for the effective implementation of the UBE programme include adequate collection of data, adequate funding, adequate infrastructure, adequate availability of teaching and learning materials, recruitment of qualified teachers, and improving teachers' welfare.

**Citation.** Suleiman Y., Mrakpor F.D. (2025). Perceived Measures for Effective Implementation of Universal Basic Education (UBE) Programme in Primary and Junior Secondary Schools in Delta State, Nigeria. *Science, Education and Innovations in the Context of Modern Problems*, 8(10), 427–453. https://doi.org/10.56352/sei/8.10.39

**Issue:** https://imcra-az.org/archive/384-science-education-and-innovations-in-the-context-of-modern-problems-issue-10-vol-8-2025.html

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| Received: 03.05.2025 | Accepted: 05.07.2025 | Published: 06.08.2025 (available online) |
|---|---|---|

## Introduction

It is often said that education is critical to global development and human welfare in every society, and especially for Africa and indeed for Nigeria, given the state of our development. When delivered well, education promises young people employment, better earnings, good health, and a life without poverty. For communities, education spurs innovation, strengthens institutions, and fosters social cohesion. These benefits depend on learning, as schooling without learning is a wasted opportunity (World Bank Report, 2018). More than that, it is a great injustice: the children whom societies fail are the ones who are the most in need of a good education to succeed in life. It is on this premise that the Federal Government of Nigeria launched the Universal Basic Education (UBE) programme in September 1999 to provide compulsory, free, and universal basic education. It was also Nigeria's response to the achievement of Education for All (EFA) and Millennium Development Goals (MDGs).

The UBE programme, as a policy reform measure, aims to rectify distortions in the delivery of basic education (for primary and junior secondary schools) in the country as well as to provide basic education in the formal and non-formal sectors. The main thrust of the UBE programme is to lay the foundations for lifelong learning through the provision of effective learning, self-awareness, citizenship, and life skills. Specifically, the objectives of the programme include:

(i) Developing a strong consciousness for education and a strong commitment to its vigorous promotion among the whole population.

(ii) Provision of free, compulsory, universal basic education for every Nigerian child of school age.

(iii) Drastically reducing the drop-out rates in the formal school system.

(iv) Catering for the learning needs of young persons who for one reason or another, have had to interrupt their schooling. This is through appropriate forms of complimentary approaches to the provision and promotion of basic education.

The UBE programme was established mainly to cater for primary and junior secondary schools in Nigeria. According to the National Policy on Education, Section 2 sub-section 18, primary education is the education given to children aged 6-12 years. Section 2 sub-section 19 states the following as objectives of primary education:

(i) Inculcate permanent literacy skills, numeracy skills, and the ability to communicate effectively
(ii) Lay a sound basis for scientific, critical and reflective thinking
(iii) Promote patriotism, fairness, understanding, and national unity
(iv) Instill social and moral norms and values in the child
(v) Develop in the child the ability to adapt to the changing environment
(vi) Provide opportunities for the child to develop life skills that will enable the child function effectively in the society within the limits of the child's capability.

Section 2 sub-section 21 of the policy describes junior secondary education as the education which a child receives immediately after primary school. Section 2 sub-section 22 of the policy highlights the objectives of junior secondary education in Nigeria. They are:

(i) Provide the child with diverse basic knowledge and skills for entrepreneurship and educational advancement
(ii) Develop patriotic young people equipped to contribute to social development and to perform their civic responsibilities
(iii) Inculcate values and raise morally upright individuals capable of independent thinking, and who appreciate the dignity of labour
(iv) Inspire national consciousness and harmonious co-existence irrespective of differences in endowment, religion, colour, ethnic and socio-economic background.

In spite of the success recorded in providing basic education in Nigeria, a World Bank (2018) report shows that the education crisis in Nigeria is currently widening the social gaps in the country. The report observed that even after several years in school, millions of children could not read, write or do basic mathematics. This learning crisis, according to the report, is widening social gaps instead of narrowing them. The report further indicates that millions of children in Nigeria face the prospect of lost opportunities and lower wages in the future because their primary and secondary schools were failing to educate them to succeed in life. In the same vein, a recent report released by the National Bureau of Statistics (2018) revealed that there are over 10 million -children out of school in Nigeria.

In Delta State, there is a general belief that the much desired socio-political and economic changes can only be achieved through education, whether formal or non-formal.. Within Nigeria, Delta State has a historical precedent of being educationally conscious, and it emphasizes education as a tool for socio-political and economic growth

(Delta State Ministry of Basic and Secondary Education, 2014; The Pointer Newspaper, 2019). Despite the fact that Delta State occupies a frontline position in the country's education sector in terms of service delivery, there are 551,709 children out of school in public primary and junior secondary schools in the state, as reported in Nigeria Education Indicators, which was released by the Federal Ministry of Education in 2017, indicating that there is much to be done to ensure that no child is left out of education.

In view of the above, this study examined measures for the effective implementation of the UBE programme in Delta State so that the objectives of primary and junior secondary education can be achieved.

## Literature Review

Previous research has shown that the school principals face several challenges in the implementation of the UBE scheme because of poor school facilities and inadequate funding, which leads to poor maintenance culture in most schools (Ifeoma, 2012; Muyiwa, 2011; Obidike & Onwuka, 2013; Odu, 2011; Ogunsanmi & Francis, 2014). According to Ifeoma (2012), to achieve a good quality school, there must be provision for adequate management of educational facilities because the education curriculum cannot function properly under poorly managed school facilities. Obidike and Onwuka (2013note that schools with high maintenance of their facilities had higher levels of academic success for their students. Adirika and Oluwatayo (2013) confirmed that students attending schools with new and well-equipped facilities performed better than students in schools with older and poorly equipped facilities. They concluded that the school environment is critical in ensuring effective teaching and learning. At this point, it is obvious that even the best school principal can do little or nothing under difficult circumstances; In particular, if schools are poorly funded with inadequate or poorly maintained school facilities, it will eventually result in poor academic performance for the students.

Eddho (2009) found that poor funding of schools and insufficient planning, as well as the unstable government in Nigeria, hindered the continuity of its educational programmes and policies. Additionally, Amuchie, Asotibe and Christiana (2013), found that no educational programme can survive without adequate funding. They concluded that the financing of education in Nigeria has been on the decline. However, training and retraining of principals and teachers is necessary for the growth of education in Nigeria because for any nation to experience significant improvement, training and retraining are critical to educational policy implementation (Odu, 2011).

Theoretically, the most prominent framework that can be used to explain the wholescale adoption of education and development is human capital theory. In reference to the work of Psacharopoulos and Woodhall (1997), Sakamota and Powers (1995) and Schultz (1971), the theory hypothesises that education is key to improving the production capacity of a population. The theory also emphasises how education increases the adeptness of workers by increasing their cognitive level. Proponents of human capital theory argued that the theory provides justification for large investment in education both in developed and developing countries. According to the human capital model developed by Robert (1991), the use of education for the creation of human capital has been largely responsible for differences in labour productivity and differences in technological development in the world. In view of the extensive literature review, three research questions and objectives were formulated to guide the study. The research questions and objectives are as follows:

## Research Questions

1. Are the objectives of UBE programme in public primary and junior secondary schools in Delta State being achieved?

2. What are the challenges preventing the implementation of the UBE programme in public primary and junior secondary schools in Delta State?
3. What measures can be used to ensure the effective implementation of the UBE programme in public primary and junior secondary schools in Delta State?

Relating to the research questions, three research objectives were generated for the study:

## Research Objectives

1. To establish whether the objectives of the UBE programme in Delta State are being achieved.
2. To identify challenges preventing the effective implementation of the UBE programme in public primary and junior secondary schools in Delta State.
3. To suggest possible measures that can be used to ensure the effective implementation of the UBE programme in public primary and junior secondary schools in Delta State.

## Methods

### Research Philosophy/Design

According to Guba and Lincoln (1994), a research philosophy, which is also referred to as a research paradigm, can be defined as the perception that guides investigation. Myers (2013) classified research philosophy into two categories: positivist and interpretivist paradigms.

The positivist paradigm can be traced to the works of a French philosopher, Auguste Comte (1798-1857) (Moore, 2010). The positivist paradigm is based on the notion that social reality can be studied independently (Scotland, 2012). It is assumed that social life can be investigated quantitatively using experimentation and correlation to examine the cause and effect links between variables. The interpretive paradigm, also referred to as constructivist or anti-positivist, is the philosophy of a Mathematician and German Philosopher, Edmund Husserl (1859-1938)(Wright, 2009). The assumption of the interpretive paradigm is that human life can be studied through observation, interview, case studies and so on (Guba & Lincoln, 1994). Additionally, interpretivists believe that social reality is generally constructed and subjective, with both participants and the researcher cooperating to understand the phenomenon from the perspective of the individual. Both positivist and interpretive paradigms (quantitative and qualitative methods) were adopted for the study.

The use of a qualitative method (interview) is dominant in this study while quantitative techniques (use of secondary data) were used to support the qualitative method. There are reasons for the dominance of the qualitative method in this study. First, qualitative methods provide an environment for an in-depth investigation of the research questions. Second, studies have shown that qualitative methods are more flexible and create a better understanding of complex issues because they involve interaction between participants and the researcher. For example, the use of open-ended questions and unstructured interviews allows participants to respond to the questions differently in their own words instead of simply providing a yes or no answer. Third, this methodology creates a friendly atmosphere between the researcher and participants, especially when an experienced researcher is involved and applies the rules of engagement. Fourth, the method is less formal than quantitative method. Based on the above reasons, the qualitative approach was deemed the most appropriate for this research.

### Population/Sampling Techniques

Delta State is located in the southern part of Nigeria. Specifically, the state belongs to one of the six states in the South South region of the country (see figure 1). The population of the study consists of all headmasters and principals of public primary and junior secondary schools in Delta State, Nigeria. Three sampling techniques (stratified, purposive

and convenience sampling) were used to recruit the participants. First, the stratified sampling technique was used to classify schools in the 25 Local Governments according to three senatorial districts (Delta North, Delta South and Delta Central) in the state. Table 1 shows the local governments under the three senatorial districts in Delta State, Nigeria.

Table 1: 25 Local Governments in Delta State, Nigeria

| S/N | Local Governments Under Delta North Senatorial District |
|---|---|
| 1 | Aniocha North |
| 2 | Aniocha South |
| 3 | Oshimili North |
| 4 | Oshimili South |
| 5 | Ika North-East |
| 6 | Ika South |
| 7 | Ukwani |
| 8 | Ndokwa West |
| 9 | Ndokwa East |
| S/N | Local Governments Under Delta Central Senatorial District |
| 1 | Ethiope East |
| 2 | Ethiope West |
| 3 | Okpe |
| 4 | Uvwie |
| 5 | Sapele |
| 6 | Udu |
| 7 | Ughelli North |
| 8 | Ughelli South |
| S/N | Local Governments Under Delta South Senatorial District |

| | |
|---|---|
| 1 | Bomadi |
| 2 | Burutu |
| 3 | Isoko North |
| 4 | Isoko South |
| 5 | Patani |
| 6 | Warri North |
| 7 | Warri South |
| 8 | Warri South-West |

Figure 1: Map of Delta State, Nigeria

Secondly, purposive sampling was used to select Local Governments in the three senatorial districts. This technique was used. This technique is often used in qualitative research for in-depth investigation cases (Patton, 2002) as it enables the researcher to discover a sample population that supports a better understanding of the problem being investigated (Creswell, 2007; Hatch, 2002; Yin, 2011). Thirdly, convenience technique was used to select 15 headmasters and principals from 15 primary and junior secondary schools across the three senatorial districts in the state participate in the study. Table 2 below illustrates how the headmasters and principals from 15 schools were selected via purposive and convenience sampling techniques.

Table 2: Selection of Participants for the Study

| S/N | Senatorial District | Number of Participant Selected | Number of Participant Selected |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 1 | Delta North | - 1 headmaster from one primary school<br>- 3 principals from three junior secondary schools | 4 |
| 2 | Delta Central | - 2 headmasters selected from two primary schools<br>- 5 principals selected from five junior secondary schools | 7 |
| 3 | Delta South | - 2 headmasters selected from two primary school<br>- 2 principals selected from two junior secondary schools | 4 |
| | **Total** | - | **15** |

**Sources of Data**

**(a) Interview Protocol**

The interview protocol is a document that the interviewer uses as a guide to conduct the interview. It covers the introduction and questions the interviewees are to be asked. Interview protocol can also be defined as a set of questions to assist and guide semi-structured open-ended interviews (Creswell, 2013; Turner, 2010). For the purpose of the present study, we developed the "Interview Protocol on Perceived Measures for Effective Implementation of UBE (IPPMEI)" to elicit relevant information from the school principals. The reason for selecting principals as participants for the study is that they are responsible for implementing education policies, as enshrined in the UBE programme. Our interview protocol has 3 main questions and 9 sub-questions. The questions in the protocol were adapted from the studies conducted by Arong and Ogbadu (2010), Ejere (2011), Subair and Talabi (2015). Specifically, the interview questions were formulated to investigate the study's three research questions.

Wikiversity (2015) notes that the validity check is an essential part of qualitative research. The importance of the validity check is that it helps to ensure the credibility of the data and that the results of the research reflect the research context. In order to ensure the validity of the interview protocol, the protocol was subjected to content a validity check as suggested by Creswell (2013). The interview protocol was reviewed by experts in the field of Educational Management to ensure that the questions in the protocol aligned with the study's objectives. The experts' suggestions and observations were collected and included in the final draft of the protocol. Moreover, to ensure the protocol was fit for purpose, we conducted a pilot study with one principal in one of the secondary schools in Delta State which was not used for the main study. Conducting a pilot study ensures the reliability of the questions in the interview protocol before the main data collection phase (Creswell, 2013; Silverman, 2016; Wikiversity, 2015). Additionally, the data collected in the pilot study were transcribed and coded in line with the research questions. This was to ensure the coding process would run smoothly following the main phase of data collection.

**(*b*) Secondary Data**

To get comprehensive information for the study, secondary data and some documents were collected to support the data collected during the interviews. Specifically, data on the number of teachers, the availability of teaching and learning materials and other relevant data were collected. The secondary data supported the data collected during the interviews. Table 3 shows the checklist used for collecting secondary data.

Table 3: Checklist for Secondary Data Collection

| S/N | Item | Period Covered (5 years) |
|---|---|---|
| 1 | Data on teacher/pupil ratio in primary and junior secondary schools. | 2012-2016 |
| 2 | Data on pupil/classroom ratios in primary and junior secondary schools. | 2012-2016 |
| 3 | Data on enrolment level in primary and junior secondary schools. | 2012-2016 |
| 4 | Data on completion rates in primary and junior secondary schools. | 2012-2016 |
| 5 | Data on number of primary school teachers | 2012-2016 |
| 6 | Data on number of junior secondary school teachers | 2012-2016 |

## Ethical Considerations

The ethical issues associated with research studies were considered before the research was conducted to address any issues commonly found in research studies. To avoid problems relating to the participants' privacy, participants' anonymity was guaranteed and the aim of the research study was explained. Furthermore, participants gave their informed consent to proceed participate in the research study using a consent form. Finally, a cordial relationship was established to create room for participants' willingness to participate in the study (Creswell, 2013).

## Data Collection/Analysis Procedure

Following Creswell's (2013) suggestions on data collection in qualitative studies, the interviews were conducted in all the selected schools with the assistance of two research assistants who we employed to assist us in data collection. The interviews were conducted with the use of a laptop, a biro, a pencil, a jotter, a digital audio tape recorder and a video camera. For the quantitative part of the study, the secondary data were obtained from the Federal Ministry of Education's Book on Education Indicators, Delta State Universal Basic Education Board, and National Bureau of Statistics (NBS). The data were analysed using Excel. Specifically, descriptive analysis of education indicators was conducted.

## Results

### (a) Findings from the Qualitative Approach

### Transcription of Interview and Coding

The interviews were conducted between 2nd of October and 20th November 2018. Subsequently, the interviews were transcribed using a laptop and an air phone. The transcribed interviews produced 10 pages of excerpts. In agreement

with the research questions and objectives of the study, the transcribed interviews were coded following the conventional method of coding in qualitative research (theme, sub-theme and sub-sub-theme). The transcribed interviews produced three main themes and ten sub-themes. Table 4 shows the timelines of the interviews conducted, Table 5 shows the code assigned to participants ,while Table 6 highlights the main themes and sub-themes created during the coding process.

Table 4: Timeline of Interviews Conducted

| School | Interview Period |
|---|---|
| School 1 | 2nd - 4th October, 2018 |
| School 2 | 8th – 9th October, 2018 |
| School 3 | 12th – 14th October, 2018 |
| School 4 | 15th – 17th October, 2018 |
| School 5 and 6 | 20th – 21st October, 2018 |
| School 7 and 8 | 24th – 25th October, 2018 |
| School 9 and 10 | 5th – 7th November, 2018 |
| School 11 and 12 | 10th – 11th November, 2018 |
| School 13 and 14 | 15th – 16th November, 2018 |
| School 15 | 17th – 20th November, 2018 |

Table 5: Code assigned to participants

| School | Code Assigned |
|---|---|
| School 1 | Principal 1 |
| School 2 | Principal 2 |
| School 3 | Principal 3 |
| School 4 | Principal 4 |
| School 5 | Principal 5 |
| School 6 | Principal 6 |
| School 7 | Principal 7 |
| School 8 | Principal 8 |

| | |
|---|---|
| School 9 | Principal 9 |
| School 10 | Principal 10 |
| School 11 | HM 1 |
| School 12 | HM 2 |
| School 13 | HM 3 |
| School 14 | HM 4 |
| School 15 | HM 5 |

Table 6: Synopsis of Themes and Sub-themes of the Study

| |
|---|
| **Theme 1: Objectives of the UBE Programme in Delta State Primary and Junior Secondary Schools** |
| *Sub-themes:*<br><br>1. Provide free education (primary and junior secondary education)<br>2. Increase literacy<br>3. Reduce the rate of out-of-school children |
| **Theme 2: Perceived Challenges in the implementation of the UBE Programme in Delta State Primary and Junior Secondary Schools.** |
| *Sub-themes:*<br><br>1. Poor funding<br>2. Inadequate infrastructure<br>3. Poor maintenance culture<br>4. Lack of adequate data<br>5. Lack of qualified teachers<br>6. Poor teachers' remuneration |
| **Theme 3: Perceived Measures for Effective Implementation of the UBE Programme in Delta State Primary and Junior Secondary Schools.** |
| Sub-themes:<br><br>1. Adequate Data Collection<br>2. Adequate Funding<br>3. Adequate Infrastructure<br>4. Adequate Teaching and Learning Materials<br>5. Recruitment of Adequate/Qualified Teachers |

6. Teachers' Welfare

**Research Question 1: Are the objectives of the UBE programme in public primary and junior secondary schools in Delta State being achieved?**

The first research objective seeks to establish whether the objectives of the Universal Basic Education Programme are being achieved. Based on the interviews conducted, the school principals and headmasters clearly expressed the objectives of the UBE. According to Principal 1, "the UBE was set up to improve literacy and ensure the number of out-of-school children in Nigeria is reduced". Similarly, other principals expressed their thoughts on the aims of the UBE programme:

*"The Universal Basic Education is aimed at providing basic education at the basic level of education in the state and Nigeria at large (HM 1, 4, Principal 2 & 10)."*

*"The purpose of establishing the UBE programme in 2000 was to provide free and compulsory education for all Nigerian children of school age, but some of the objectives are yet to be achieved because we still have many children that are out of school (HM 5, 2 & Principal 3)."*

Principal 4 revealed that... "The UBE programme was designed to reduce illiteracy and poverty in the nation because education is the gateway to success". According to HM 3, "Universal Basic Education is one of the Millennium Development Goals aimed at providing equality and free basic education for children across the length and breadth of Nigeria, but we still have some children whose parents are not even of the programme." In the same vein, Principal 6 asserted that... "Despite the replacement of UPE (Universal Primary Education) with UBE, because of the challenges associated with it, the main objective of UBE, which is to reduce the number of out-of-school children to the barest minimum (by offering free and compulsory education), is yet to be achieved."

***Research Question 2:*** **What are the challenges preventing the implementation of the UBE programme in Delta State, Nigeria?**

Using interviews allowed for individual differences in how participants interpreted and responded to the questions based on their personal experience. However, the main question asked during the interviews asked participants about the major challenges hindering the implementation of the universal basic education programme in the schools they managed.

(1) **Poor Funding**

Most of the Principals expressed a high level of disappointment about the fact that the UBE scheme was underfunded and noted that no system can survive without adequate funding. Principal 1's response commended the government for their efforts so far on education but admitted that poor funding was the primary reason why the school principals were unable to implement the UBE programme. In the same vein, HM 2 asserted that "poor funding is a big issue in education but junior secondary schools under UBE have not been funded well by various governments." Likewise, Principal 3 said:

*"Considering the budget allocated to education, it can be said that funding is one of the factors affecting the effective implementation of the UBE programme, not only in our junior secondary school here, but across primary and junior secondary schools in Delta State and Nigeria."*

In support of the above, Principals 4, 5 and HM 4 are of the view that:

*"There is no doubt that inadequate funding of education, especially in primary and junior secondary schools, is a serious challenge that hampers the effective implementation of the UBE programme in many schools. There is a lack of funding to run junior schools efficiently and effectively. This is affecting the goals and objectives of the UBE. They claimed that the terrible economic situation in the country as a result of fall in the oil price globally has also negatively impacted the scheme due to the reduction of government income from the sales of oil."*

(2) **Inadequate Infrastructure**

Principal 1 said "most government schools' facilities in Delta State are in a poor state which also affects the implementation of the UBE scheme by the school principals." Principal 2 confirmed that:

*"Poor funding of the scheme, inadequate infrastructure, poor maintenance culture, lack of political will, instability in government and their policies. The aforementioned contemporary challenges are often responsible for the inadequacy of infrastructure in the majority of primary and junior secondary schools in Delta State."*

In the same vein, HM 1 is of the opinion that:

*"The ack of funding in most cases has prevented school principals from providing the necessary basic school infrastructure that support teaching and learning in most junior schools in Delta State. This is a major challenge that has hindered the UBE scheme from achieving its objectives".*

Principal 4 argued that:

*"The poor state the infrastructure in junior secondary schools in the state has made teaching and learning difficult. In some cases, there is inadequate or limited classroom furniture and classrooms without a roof are not fit for learning. These are fundamental challenges facing the UBE implementation."*

Principal 5 states that "No meaningful teaching and learning can take place with the poor level of infrastructure found in junior secondary schools as seen in some government schools in Warri, Delta State".

(3) **Poor Maintenance Culture**

On the poor maintenance culture in primary and junior secondary schools, Principal 10 said that... "The poor maintenance culture in junior secondary schools in Warri Delta State was as a result of lack of funding". In support of the above, Principal 8 stated that:

*"The poor maintenance culture seen in schools is a result of corruption which is a major factor in the poor maintenance of schools in Warri because even when funds are provided, they are not used for the purposes they are meant for. Rather, they are diverted for private use. Corruption has greatly impacted negatively on the effective implementation of the UBE scheme".*

Furthermore, HM4 3 is also of the opinion that "Corruption is a major hindrance in the school maintenance system because of the lack of payment of staff salaries, most funds are diverted for personal purposes". Principal 7 revealed

that "The poor maintenance culture in junior secondary schools today is an after effect of poor funding and government neglect in the educational sector".

(4) **Lack of Adequate Data**

A lack of data poses forecasting difficulties and invariably implementation problems. Untrustworthy data makes it difficult to make satisfactory prognoses in terms of anticipated school enrolment (primary, secondary and higher institutions), the number of teachers required, infrastructural needs and other facilities needed. Ejere (2011) observed that the accurate and reliable data that are needed for educational planning rarely exist in Nigeria. In support of the above, the current study notes a lack of adequate data in the education system based on the interviews conducted with the principals. Principal 9, observed that "The lack of adequate data hindered the effective implementation of the UBE programme."

Principal 2 is of the view that:

*"Planning is very difficult when the data available are inadequate; for example, data about the total number of qualified teachers not adequate; the data showing the status of school infrastructures are inadequate. There are no adequate data showing the number of school children, number of functional science laboratories, numbers well-equipped school libraries and so on. The aforementioned reasons are some of the challenges that have hindered the implementation of the UBE programme."*

Also, the views of Principal 3, 4 and HM 1 are the same. They admitted that "Data is a success factor for planning in any system including the UBE scheme, but inadequate data is a challenge for proper planning in the UBE programme."

**(5) Inadequate Numbers of Qualified Teachers**

According to a document sponsored by the Federal Government and United Kingdom's Department of International Development (2009), over 60 percent of teachers in Nigeria's primary schools are unqualified. The document also revealed crowding and a lack of classrooms, poor sanitation facilities and lack of teaching equipment as other contemporary problems affecting effective teaching and learning. They affirmed that although teachers are a major factor in ensuring the quality of education at all levels, the basic education level in Nigeria is plagued by a lack of professionally qualified teachers. Subair and Talabi (2015) found that the teacher shortage in primary and secondary schools can also take the form of high student-teacher ratios in schools. Additionally, teachers are always in short supply for several reasons, including, for example, poor salaries, high numbers of students enrolment and poor working conditions..

Principal 1 admitted that "The lack of well-trained technical teachers and tools among others were some of the problems responsible for the poor implementation of the UBE scheme by the school principals." Similarly, Principal 6 claimed that his school "does not have qualified teachers for technical education, which is another major challenge in the implementation of the UBE scheme."

**(6) Poor Teachers' Remuneration**

Principal 6 states that "Poor wages leading to demotivation and spending longer working hours without compensation are huge spanners in the works of implementing the UBE programme in both primary and junior secondary schools in Delta State." HM 4 aggressively stated that "Poor salary and continuous delay of teachers' promotion and training killed the morale of the teachers; hence it affects the process of teaching and learning." Principal 1 claimed that "The current teachers' salary cannot support their immediate needs and there is no way anybody could survive in the present economic condition in the country; as such, teachers are highly demotivated to teach".

### (b) Additional Findings from the Quantitative Approach

The secondary data obtained from the Federal Ministry of Education's School Education Indicators were analysed using Excel to provide graphical representations for easy understanding of the data. Some of the education indicators that were analysed include ratios (pupil/teacher ratio & pupil/classroom ratio) in public primary and junior secondary schools; enrolment levels (male and female) in public primary schools; enrolment levels (male and female) in public junior secondary schools; completion rates (male and female) in public primary schools; completion rate (male and female) in public junior secondary schools; numbers of primary school teachers (including qualified ones) and of junior secondary school teachers (including qualified ones).

#### (1) Ratios in Public Primary and Junior Secondary Schools

The data collected revealed that the pupil-teacher ratio in public primary schools is 32:1 while ratio in public junior secondary school is 28:1. Additionally, in public primary secondary schools there are 57 pupils per classroom, meaning that the classrooms are overcrowded, which is against UNESCO's recommendation. In the same vein, in public junior secondary schools, there are 52 pupils per classroom This implies that classrooms in junior secondary school are overcrowded; no effective teaching and learning can take place in such an environment. Table 7 shows the ratio in public and junior secondary schools based on the two education indicators, while Figure 2 provides a visual representation of the data.

Table 7: Ratio in Public Primary and Junior Secondary Schools in Delta State, Nigeria

| Indicator | Public Primary Schools | Public Junior Secondary Schools |
|---|---|---|
| Pupil/Teacher Ratio | 32 | 28 |
| Pupil/Classroom Ratio | 57 | 52 |

Source: Federal Ministry of Education 2017 Report

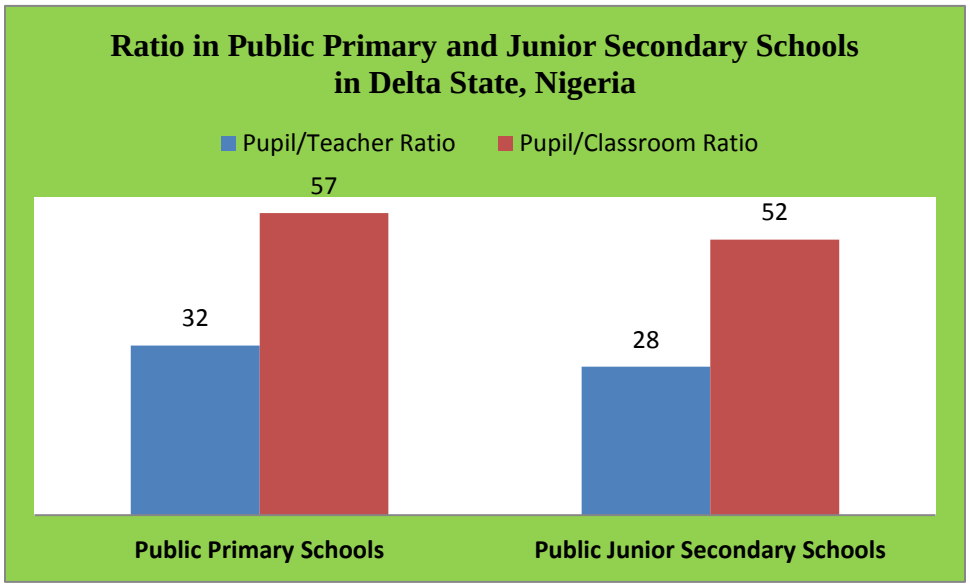

Figure 2: Graphical Representation of Ratios in Public Primary and Junior Secondary Schools

**(2) Enrolment Levels in Public Primary Schools (2012-2016)**

Findings indicate that there has been a decline in the number of pupils enrolling in primary schools from 2012 to 2016. For instance, 248,363 males enrolled in 2012 was . This and went down in 2013 to 242,401 enrolments. In 2014, the enrolment level was 253,461, in 2015 it was 240,405, and 2016 it dropped to 194,207. Concerning females, the findings revealed that 249,989 females enrolled in 2012, 239,013 in 2013, 248,288 in 2014, 238,675 in 2015, and 191,310 in 2016. Table 8 shows male and female enrolment levels, while Figure 3 displays the trend in enrolment level in public primary schools in Delta State, Nigeria.

Table 8: Enrolment Level in Public Primary Schools in Delta State, Nigeria (2012-2016)

| Indicator | 2012 | 2013 | 2014 | 2015 | 2016 | Total |
|---|---|---|---|---|---|---|
| Male | 248,363 | 242,401 | 253,461 | 240,405 | 194,207 | 1,178,837 |
| Female | 249,989 | 239,013 | 248,288 | 238,675 | 191,310 | 1,167,275 |

Source: Federal Ministry of Education 2017 Report

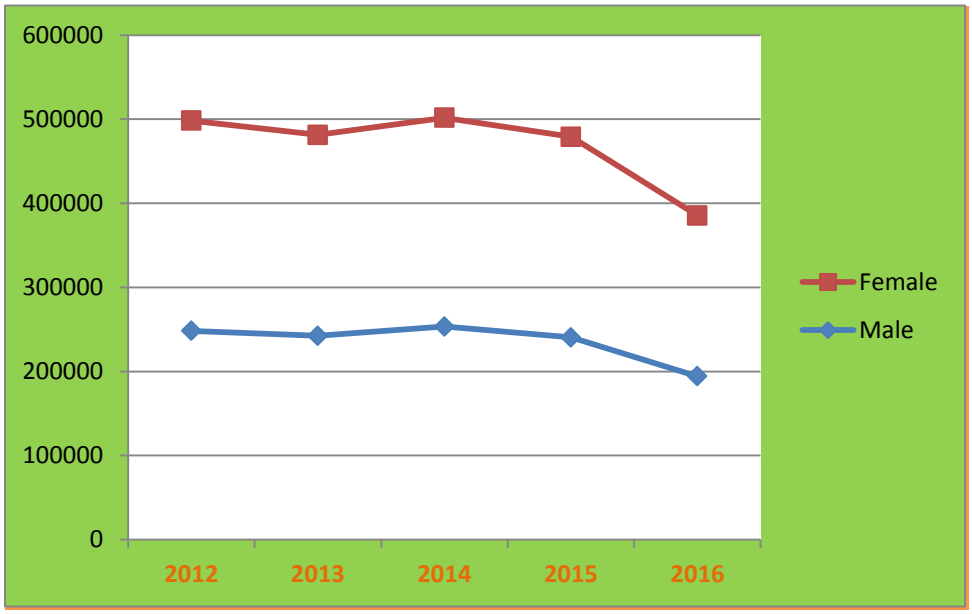


Figure 3: Graphical Representation of the Trend in Enrolment Level in Public Primary Schools in Delta State, Nigeria.

(3) **Enrolment Level in Public Junior Secondary Schools**

Like in primary schools, enrolment levels in public junior secondary schools in Delta State are decreasing. Regarding males, , 89,714 were enrolled in 2012, 90,593 in 2013, 92,476 in 2014, 108,651 in 2015, and 79,740 in 2016, meaning that the total number enrolled between 2012 and 2016 is 461,174. For females, , 89,206 pupils were enrolled in 2012, 92,401 in 2013, 95,499 in 2014, 110,994 in 2015 and 75,388 in 2016. Table 9 indicates the enrolment levels, while Figure 4 illustrates the trends in enrolment for both males and females.

Table 9: Enrolment Level in Public Junior Secondary Schools in Delta State, Nigeria (2012-2016)

| Indicator | 2012 | 2013 | 2014 | 2015 | 2016 | Total |
|---|---|---|---|---|---|---|
| **Male** | 89,714 | 90,593 | 92,476 | 108,651 | 79,740 | 461,174 |
| **Female** | 89,206 | 92,401 | 95,499 | 110,994 | 75,388 | 463,488 |

Source: Federal Ministry of Education 2017 Report

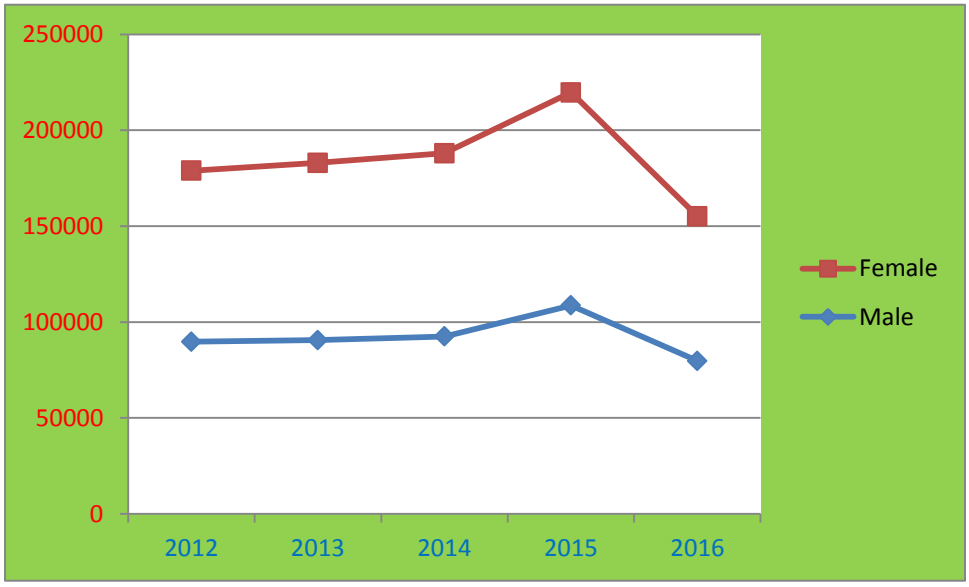


Figure 4: Graphical Representation of the Trend in Enrolment Rate in Public Junior Secondary Schools in Delta State, Nigeria

(4) **Completion Rate**

Based on the data collected and analysed, the completion rate in public primary schools is 43.13 percent for males and 39.48 percent for females. This indicates that the percentage of males that completed school higher than that of females. Similarly, the completion rate in public junior secondary schools for males is 42.74 percent, but 39.48 percent for females. Table 10 shows the completion rate in both primary and junior secondary schools while Figure 5 provides a graphical representation of the completion rate.

Table 10: Completion Rate in Public Primary and Junior Secondary Schools in Delta State, Nigeria (percent)

| Indicator | Public Primary Schools | Public Junior Secondary Schools |
|---|---|---|
| Male | 43.13 | 42.74 |
| Female | 39.48 | 35.83 |

Source: Federal Ministry of Education 2017 Report

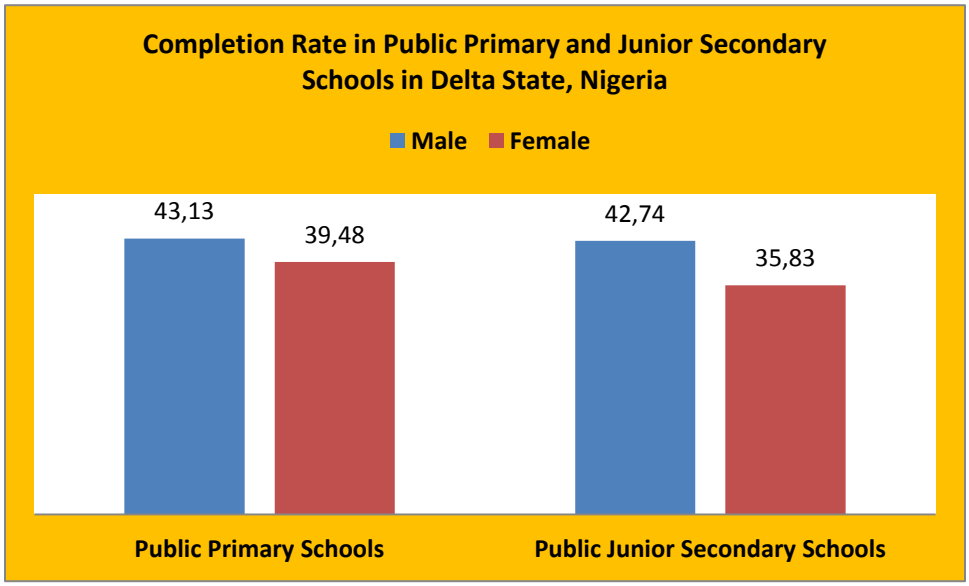


Figure 5: Graphical Representation of the Completion Rate in Public Primary and Junior Secondary Schools (percent)

### (5) Number of Primary School Teachers

The total number of primary school teachers in Delta State is 9,307 (males: 2,658; females: 6,649), and there are 7,930 qualified teachers in public schools (males:2,161; females: 5,769). This means that 1,377 teachers are unqualified. Therefore, the issue of unqualified teachers is a serious concern in primary schools. Table 11 shows the numbers of primary school teachers while Figure 6 provides a graphical representation of the statistics.

Table 11: Numbers of Primary School Teachers in Delta State, Nigeria

| Indicator | All Teachers | Qualified Teachers (Public) | Unqualified Teachers (Public) |
|---|---|---|---|
| Male | 2,658 | 2,161 | |
| Female | 6,649 | 5,769 | 1,377 |
| Total | 9,307 | 7,930 | |

Source: Federal Ministry of Education 2017 Report

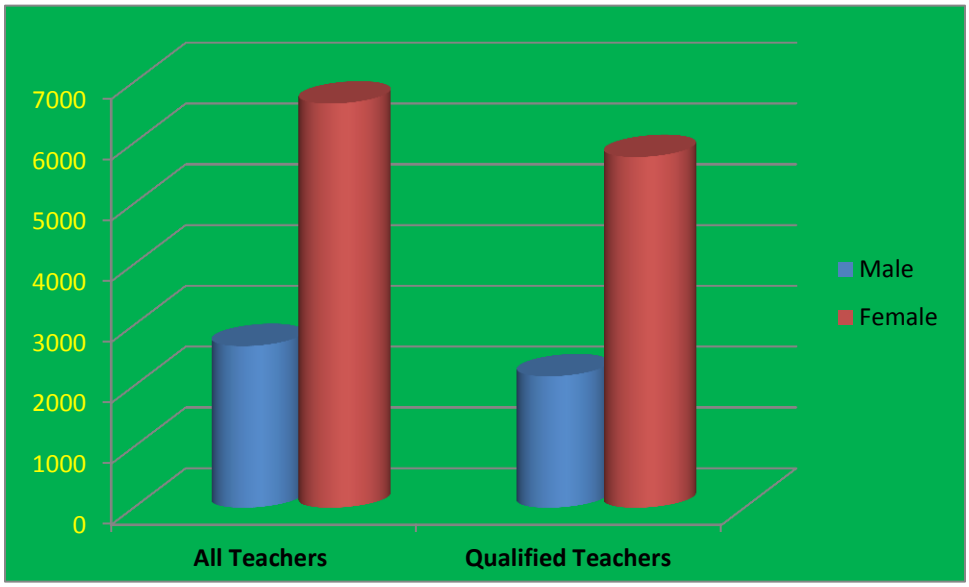


Figure 6: Graphical Representation of the Number of Primary School Teachers in Delta State, Nigeria

(6) **Number of Junior Secondary School Teachers**

The total number of junior secondary school teachers in Delta State is 11,342 (males: 5,245; females: 6,097). Of these, 5,283 are qualified (males: 2,311; females: 2,972) while 6,059 are unqualified. The number of unqualified teachers is, therefore, a grave concern in junior secondary schools. The table below indicates the number of junior secondary school teachers while Figure 7 provides a graphical representation of the statistics.

Table 12: Number of Junior Secondary School Teachers in Delta State, Nigeria

| Indicator | All Teachers | Qualified Teachers (Public) | Unqualified Teachers |
|---|---|---|---|
| Male | 5,245 | 2,311 | 6,059 |
| Female | 6,097 | 2,972 | |
| Total | 11,342 | 5,283 | |

Source: Federal Ministry of Education 2017 Report

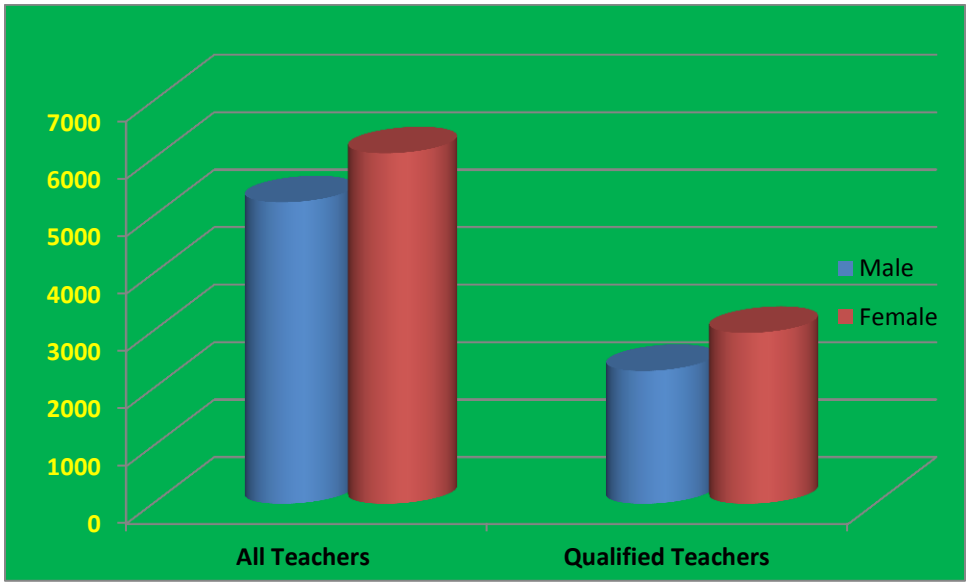


Figure 7: Graphical Representation of the number of Junior Secondary School Teachers

**What measures can be used to ensure the effective implementation of the UBE programme in Delta State, Nigeria?**

The third research question investigates measures that can be used to ensure the effective implementation of the UBE programme in public primary and junior secondary schools in Delta State, Nigeria. Based on the interviews conducted, six measures are suggested to address the challenges providing the successful implementation of the UBE programme. These measures are given below:

**(1) Adequate Data Collection**

Principals 1 and 6 are of the view that "For us to get our UBE programme right in Nigeria, the government at all levels (local, state, and federal) must ensure synergy with a view to collating adequate and reliable data for the purpose of planning, budgeting and implementing the various stages of the programme." Similarly, HM 3 stated that "Since data is needed for the growth of education, adequate and reliable data should be collected so that proper planning can be made for the successful implementation of the programme". The views of Principal 5 and HM 4 are similar; they state that "The availability of data is important for the advancement of primary, secondary and tertiary education in Nigeria."

**(2) Adequate Funding**

According to Principal 5, "No school can function effectively without adequate funding; thus proper funding is vital in all spheres of education so that the philosophical goals of education can be achieved." HM 3 stated that "Federal, State and Local Governments should set aside special funds to be allocated for the UBE programme so that the needs and aspirations of children can be met." Likewise, Principal 2 and HM 5 are of the view that:

*"No matter how well the UBE's policy and programme are structured, if there is not adequate funding available for its implementation, the challenges of UBE will persist because the funds are needed to procure all the instructional materials and to pay the teachers' salaries constantly without any issues"*

HM 1 stated that:

*"It is a fact that most schools under the UBE programme are underfunded; therefore, adequate funds must be allocated to the education sector as recommended by UNESCO so that millions of Nigerian children can return to school as part of the general growth of education in Nigeria. Since schools under the UBE programme provide the foundations upon which other levels of education are built, constant and adequate funding of the sector cannot be compromised. "*

### (3) Adequate Infrastructure

Principal 1 suggested that:

*"Since a school cannot exist without infrastructure, adequate infrastructure such as classrooms, dormitories, administrative blocks, staff offices, laboratories, workshops, clinics, libraries, school buses, guidance and counselling units, sports centres and other important facilities should be available in all primary and junior secondary schools in Delta State so that the goals of UBE can be achieved."*

In support of the above, the views of Principals 2, 4 and HM 3 are given below:

"*For the government to achieve any significant success in the UBE, infrastructure is key. Therefore, new modern facilities such as classrooms, libraries and clinics should be built, while existing facilities should be renovated to a higher standard to ensure effective teaching and learning, and also to ensure that the aims and objectives of UBE are realised"*

*"There is a need to for the government at all levels (local, state and federal) to embark on focused infrastructural development (e.g. building modern classrooms, quality chairs and tables, accommodation, libraries, clinics, guidance and counselling units, etc.) in the education sector, especially in primary and secondary schools so that people are discouraged from selecting private schools because they have superior facilities (HM 1 & 5)."*

### (4) Adequate Teaching and Learning Materials

HM 1 asserted that "Modern teaching and learning materials such as textbooks, books, novels, TVs and Radios, and other useful instructional materials should be made available in primary and junior secondary schools so that effective teaching and learning can be assured." Similarly, according to Principal 4:

*"The adequate provision of teaching and learning materials is key to effective learning in schools. Therefore, it should be to ensured that modern teaching materials such as textbooks, markers, boards, teaching aids, workshops and other relevant materials are provided for the effective implementation of the UBE programme not only in the primary and junior secondary schools in Warri Local Governments, but these should also be made available in the entire Delta State and throughout the whole of Nigeria."*

### (5) Recruitment of Qualified/Adequate Teachers

This study demonstrated that school principals and headmasters believe that mass recruitment of qualified and competent teachers in junior secondary schools will help solve the problems of education in primary and junior secondary schools in Delta State. According to Principal 3, " "The government should embark on recruitment of qualified teachers to fill the vacant positions in both primary and junior secondary schools, most especially in rural areas where they have a shortage of teachers." Similarly, Principal 6 stated that "The recruitment of qualified teachers

for schools is long overdue. In recruiting teachers, emphasis must be placed on science subjects (Mathematics, Integrated Science, Computing, Introductory Technology etc.) and English Language." HM l and 2 support the abov:

*"For the government to get education right, constant recruitment of well-trained teachers in science subjects is needed in primary and junior secondary schools. This will help to actualise the goals and objectives of the UBE programme. All employed teachers should be sent to rural areas because those areas are short of pupils and students in primary and junior secondary schools."*

### (6) Teachers' Welfare

According to HM 4, "Teachers' welfare should be taken seriously by the government so that they can be efficient and effective in the classroom." Similarly, Principal 2 is of the view that "Teachers' salaries should be paid promptly so as to improve their morale; this will ensure effectiveness on their part." Principal 5 asserted "Training and retraining of teachers should be constant so that they can be informed of the current trends in the education system." In the same vein, Principal 1 stated:

"Teachers' welfare should be prioritised if we intend to improve the state of the Nigerian education system. Teachers' salaries, bonuses and allowances must be paid when due. Also, other fringe benefits such as a health insurance scheme, car and housing loans, and training and retraining should be considered."

## Conclusion

1. The main objective of the UBE programme (reducing the number of out-of-school children by offering free and compulsory education from primary to junior secondary education) is yet to be achieved. Currently, 551,709 children are out of school in Delta State, Nigeria.

2. There are many challenges preventing the effective implementation of the UBE programme. These include poor funding, inadequate infrastructure, poor maintenance, lack of adequate data, and poor remuneration for teachers.

3. The pupil-teacher ratio in public primary schools is 32:1, while the student-teacher ratio in public junior secondary schools is 28:1.

4. There is overcrowding classrooms. Specifically, the pupil-classroom ratio in public primary schools is 57:1, while the pupil-classroom ratio in public junior secondary schools is 52:1.

5. Enrolment levels have declined. T pupil enrolment level in public primary schools from 2012-2016 is 2,346,112 (males: 1,178,837; females: 1,167,275), while the student enrolment level in public junior secondary schools is 924,662 (males: 461,174; females: 463,488).

6. The completion rate is low. In public primary schools, the completion rate is 43.13 percent for males and 39.48 percent for females, while the completion rate in junior secondary schools is 42.74 percent for males and 35.83 for females. Thus, the completion rate is less than 50%.

7. There are unqualified teachers in primary schools. The total number of all primary school teachers is 9,307 (males: 2,658; females: 6,649) and the number of qualified teachers in public primary schools is 7,930, meaning that there are 1,377 unqualified teachers.

8. There inadequate and unqualified teachers in junior secondary schools. The total number of all junior secondary school teachers is 11,342 (males: 5,245; females: 6,097), and the number of qualified teachers is 5,283. There are 6,059 unqualified teachers.

**Recommendations**

| |
|---|
| 1. A review of UBE policy is needed to reflect the current reality in education. |
| 2. In line with UNESCO's recommendation of allocating 25% of the to education, the Delta State government should increase the budget allocation to primary and junior secondary education. |
| 3. Stakeholders in education should assist the government in by providing adequate facilities in primary and junior secondary schools. |
| 4. Existing facilities in the schools should be maintained regularly. |
| 5. Adequate qualified teachers should be recruited. |
| 6. Improvement in headmasters, principals and teachers' working conditions. |
| 7. To increase enrolment levels in both primary and junior secondary schools, parents should be made aware of the importance of education; this will help to reduce the number of children who are out of school. |
| 8. To ensure effective learning, the teacher-pupil ratio should be reduced to 25:1. Similarly, the pupil-classroom ration should be reduced to 25:1. |
| 9. There should be periodic training and retraining of headmasters, principals and teachers.. |
| 10. Adequate data regarding primary and junior secondary schools should be collected to help in policy formulation and implementation. |

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## APPENDIX A

State of Some Public Primary and Junior Secondary Schools in Delta State, Nigeria

RESEARCH ARTICLE

# A study of the effectiveness of the marketing strategies of three Universities in Azerbaijan

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**Doi Serial** https://doi.org/10.56334/sei/8.10.55

**Keywords** Marketing of higher education, new concept, education in Azerbaijan, education strategy

**Abstract**

The marketing of higher education is still a relatively new concept in many parts of the world, particularly in Azerbaijan. Given that Azerbaijan has recently obtained its independence, it is important to investigate how higher educational institutions in the country have adapted to the new circumstances and demands in the sphere of education, since at the present time, each educational institution is expected to develop a marketing strategy. An important part of a marketing strategy is a marketing plan or a written plan that contains tactics and strategies, which an institution uses to attract and recruit students. This paper will discuss the strategies used by Azerbaijani universities in order to attract potential students.

To investigate this, face-to-face semi-structured interviews were used. In semi-structured interviews an interviewee has complete freedom in how to reply to the questions, as the main emphasis is on how a respondent evaluates situations or events and on what an interviewee believes to be important or worth explaining. Face-to-face semi-structured interviews are generally flexible and can have multi-strategy plans, where an interviewer has independence in choosing the sequence of questions and the wording, as well as the amount of time and attention given to each topic.

**Citation.** Bayramova V. (2025). A study of the effectiveness of the marketing strategies of three Universities in Azerbaijan. *Science, Education and Innovations in the Context of Modern Problems*, 8(10), 619–625. https://doi.org/10.56352/sei/8.10.55

**Issue:** https://imcra-az.org/archive/384-science-education-and-innovations-in-the-context-of-modern-problems-issue-10-vol-8-2025.html

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Received: 12.01.2025 | Accepted: 17.05.2025 | Published: 09.08.2025 (available online)

## Introduction

Additionally, this research followed the *purposive sampling* approach, aiming to select interviewees who could provide the most relevant information about the topic under investigation (Yin, 2011) and who occupy relevant positions within targeted institutions. The research targeted people responsible for, or somehow influencing, university marketing strategies. Four people from each university were interviewed, including not only vice rectors but also lecturers, rector's advisors, and heads of departments. This sampling was implemented also in order to attain *fairness*, which is when not only senior managers participate in a study (Bryman, 2011), but also other members of the university staff.

All interviews were conducted either in the respondents' personal offices or in vacant classrooms at the universities. The average duration of each interview was approximately 50 minutes.

Future employers are regarded to be the real university customers, since they hire the university students, that is, the educational products of the universities (Kotler and Fox, 1995). Additionally, employers usually evaluate the quality of a programme and an institution's prestige (Cubillo et al., 2006). This research, therefore, also includes interviews with several large employers in Azerbaijan, aiming to answer the following research question:

1) What is the opinion of the potential employers regarding the quality of Azerbaijani graduates in various sectors? Do the employers see a big difference in performance and soft skills between the graduates of Azerbaijani universities and graduates of foreign universities?

It should also be noted that this research will show whether the opinions of the university management coincide with the opinions of the employers regarding the quality of university graduates and how ready the graduates are for employment.. Such a study will allow us to see what is really happening in the higher education and employment sectors of the country, compared to what is supposed to be happening in those areas, which is very important during the current period of the development of the state.

The research included University O, which offers the following undergraduate programmes: Petroleum Engineering, Chemical Engineering, and Process Automation Engineering. All respondents' answers show that University O targets the best candidates and implements the following promotional steps in order to attract them: university representatives go to schools and distribute their brochures among pupils, TV commercials are broadcast, and the university actively uses social media. The Vice Rector for General Affairs mentioned that they see their students' relatives and siblings take up places at University O in later years, which proves the effectiveness of the university strategy and results in students' loyalty and positive opinions shared by word of mouth. However, this university does not have a central department of marketing, which defines the marketing strategy of University O.

Next, University E is the biggest university, not only in Azerbaijan but also in the entire Caucasus region, that offers a full range of economic specialties (which is the main strength of this university) including: Accounting, Finances, Banking, Statistics, Organisation and Business Management, Taxation, International Economic Relations, Marketing and Advertising, State Regulation of the Economy, and some other programmes. All respondents from University E stated that the number one priority of the university is student satisfaction. As the head of the marketing department states, the university marketing strategy includes short-term and long-term goals. The short-term targets are student satisfaction and the establishment of a good reputation. At the same time, a long-term goal of University E is inclusion in the list of the top international universities. The university plans to achieve this objective mainly via research capacity, exchange programmes with established universities and partnership with prestigious transnational corporations. The Vice Rector for General Affairs emphasised that University E has never experienced any difficulties in recruiting students but right now it is imperative for them to recruit the best or top-scoring students to the university.

University F that has six schools: School of Acting, School of Directing, School of Fine Arts, School of Music, School of Cultural Studies and School of Arts. It is the only university in Azerbaijan that offers a full range of degrees and specialties in arts and performance (Gunesh, 2015). Around eight thousand undergraduate and postgraduate students study there. Regarding University F, all interviewees were unanimous when emphasising that the strongest marketing point of this educational institution is the fact that 90 per cent of famous actors, performers, stage-directors, painters, and TV broadcasters in Azerbaijan are graduates of this University. "Our graduates are our best advertisement" is the motto of the university. Regarding student recruitment, the Vice Rector for International Relations emphasises: "*As we are a creative university, we are more interested in talent than in the educational achievements of our students. As we are a specific university, it would not be right for us to go schools and convince the students to enter our university. Our enrollees are always people who have at least some understanding of art and creativity because they all need to pass a performance exam, which needs some kind of preparation*". The Vice Rector for Education and Humanitarian Affairs of University F stresses that currently, when it comes to the marketing strategy of the university, the most important factor is student satisfaction.

The study of graduate performance in various sectors included representatives of Big Oil, the Big Four, and a local company working with Natural Compressed Gas. The results showed that Azerbaijani graduates are strong in theory but weak in practice. However, this study included only six large employers in Azerbaijan. In order to achieve more fairness and objectivity in the findings, it would have been better to interview ten or twelve

employers of various industries, which would be a possible future research direction in this sphere. When it comes to performance, many students think they will learn everything from the manufacturing process; however, it leads to great financial losses, since nearly in all production spheres in the country the reverse amortisation process takes place. This happens when new equipment breaks not long after purchase, but as time goes by, the amortisation expenses reduce, as people learn how to use the equipment. For example, many graduate engineers are unable to use modern equipment in various spheres of production and manufacturing, in particular in the sphere of oil and gas processing. The main reason for this phenomenon is the absence of appropriate laboratories with equipment at the universities; another reason is that university lecturers are completely cut off from the manufacturing and production processes in the companies. In this respect, University O is planning to fill this gap, at least in the oil sector.

The data collected at University F and through the interviews with theatre artistic directors indicate that the two have differing opinions about the quality of the graduates. Though University F considers itself to give many opportunities to its students for the development of practical skills, employers consider that the discipline and the performance technique of the new graduates are not as good as they used to be in the past. However, among the graduates there are talented individuals who go against this trend. Another complaint is that new graduates are also not used to reading as much as they are expected to, Therefore, the situation in this sector is not as perfect as the university management thinks. However, the employers are happy with the professionalism of editors, critics, stage designers, and costume designers who are also graduates of University F.

There is a definite convergence in findings between the words of the university administration from University E and employers concerning the performance of the students in the economic sector. Overall, graduates in the economic sector satisfy the employers in terms of knowledge, flexibility, and quick adaptability to working conditions. Economics graduates perform particularly well in managerial positions, regardless of the specialization of the organisation. The main complaint of the employers regarding these graduates is the lack of soft or self-presentation skills during initial interactions. The employers also complained that university career centres sometimes do not do their job properly, as some students come to the internship interviews completely unprepared.

There is also a certain convergence in findings among employers concerning the striking difference between local and international students in their soft or self-presenting skills. The employers noted that international students are more confident, easy-going, and speak foreign languages better than the local students. International students are more used to working independently, are effective team players, and do not feel shy about expressing their opinions and views, unlike the local graduates. Future employers are usually inclined to hire international students not only due to their global educational background but also due to their intercultural competence.

## Recommendations

The study shows that function remains at the operational rather than the strategic level in many universities (Maringe, 2005). Therefore, the main recommendation for the other universities will be to open a separate department of marketing and to develop a marketing plan with short and long-term objectives.

This study has demonstrated that University F provides beneficial experiences, such as virtual internships and start-up incubators. This is good practice that should be emulated in the other universities in the country, since virtual internships provide the interns with more independence (Franks and Oliver, 2012), and university incubators facilitate the technological and economic development of the country. Additionally, interviews with the university administration have revealed another shortcoming in the legislative system of the country, concerning the absence of any law supporting voluntary work for students. Therefore, the next recommendation will be the introduction of laws supporting voluntary internships or practice for students.

This research has demonstrated that many universities do not hold long-term relationships with their alumni and do not have precise statistics regarding their employment. Monitoring the employability of graduates seems problematic for many universities and they obtain official statistics only from the State Social Security Fund. It will be beneficial for university marketing departments to develop and maintain long-term relationships with alumni and to have statistics regarding their employability. At the same time, educational institutions should also put more emphasis on the quality of education and on the development of the practical skills of their students.

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# Science, Education and Innovations

in the Context of Modern Problems

Established: 2018
Publisher Location: Baku, Azerbaijan
Frequency: Monthly | Regular | Open Access

Website: https://imcra-az.org
Contact / Submissions: editor@imcra-az.org

IMCRA is a Limited Liability Company (LLC)
registered in the Republic of Azerbaijan under the registration number
VOEN: 3104103791.
The organization’s headquarters is located in Baku, Azerbaijan.

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